

Education of the Slow-Learning Child

CHRISTINE P. INGRAM

PROFESSOR EMERITUS OF EDUCATION AND PSYCHOLOGY
ILLINOIS STATE NORMAL UNIVERSITY

THIRD EDITION

MLSU - CENTRAL LIBRARY



11209EX

THE RONALD PRESS COMPANY / NEW YORK

Copyright © 1960, by
THE RONALD PRESS COMPANY

Copyright, 1953, 1935, by
THE RONALD PRESS COMPANY

All Rights Reserved

No part of this book may be reproduced
in any form without permission in writ-
ing from the publisher

2

Library of Congress Catalog Card Number: 60-13149

PRINTED IN THE UNITED STATES OF AMERICA

Preface

This book presents the educational programs designed to discover and develop the assets of a wide range of mentally retarded or slow-learning children. It begins with an examination of the needs and potentialities of the mentally retarded and the problems that teachers, parents, and interested members of the community face in providing programs of special education for these particular children. It then discusses in detail the methods and techniques of meeting these problems. Throughout, the focus is on understanding and aiding the retarded child to grow and develop in a wholesome educational environment.

Primarily this volume has been prepared for special education teachers and administrators. It can also serve as a guide for the general school administrator, psychologist, and social worker who face the problems of the mentally retarded. It is a practical reference for elementary and secondary school teachers who must provide optimal learning situations for the slow-learning child in the regular classroom. Moreover, it offers informative source material to parents, agency and institutional workers, and civic leaders concerned with the adjustment of the retarded.

First the physical, mental, social, and emotional characteristics of educable retarded children or slow learners are outlined; then the psychological and educational principles underlying the objectives for a program geared to their potentialities are set forth. The book describes the organization of special classes, the study and selection of children, and the administrator's and teacher's responsibilities for the program. Details about the

preparation and execution of teaching units are presented and, through many practical illustrations, the book shows how programs can be developed for children at various age and intelligence levels.

Special emphasis is placed on what retarded children can reasonably be expected to achieve functionally at different periods in their school experience in language arts, arithmetic, social studies, science, and other subject areas. Particular attention is given to the secondary school program in both the small and large city community.

Basic to the psychology, curriculum, and methods set forth in the book are the themes of the developmental approach to child growth and education, of mental health underlying all practices, of coordination of school and home, and of long-range perspective for educational planning, guidance, and instruction.

The nature and function of rehabilitation services are presented, since such services are often a vital link in the fulfillment of ultimate occupational and social adjustment for the retarded. The book concludes with a discussion of developments and trends looking toward the future.

The author is grateful to many persons who have contributed to the developmental program of special education set forth in this text. In particular she extends her appreciation to Romaine Mackie and Harold Williams, members of the United States Office of Education staff, and Helen Appledorn, Director of Special Education, Springfield (Illinois) Public Schools, for their willingness to supply helpful information; A. Laura MacGregor, A. Leila Martin, the late Mary T. Walsh, and Eda Gorrie, former colleagues in the Rochester (New York) Public School system, for their leadership and encouragement; Thelma Treble and Catherine Lovell, special education teachers in the Rochester schools, for their contribution to this work; Howard Seymour, Superintendent of Rochester schools, and Herman R. Goldberg, Coordinator of Instructional Services, for their interest and cooperation. And special thanks are offered to Elise Martens, former Chief, Exceptional Children and Youth, United States Office of Education, for her insight and vision which continue to be an inspiration.

CHRISTINE P. INGRAM

August, 1960

Contents

CHAPTER	PAGE
Part I	
FOCUS ON RETARDATION	
1 MENTAL RETARDATION	3
2 THE SEVERELY RETARDED CHILD	17
Part II	
THE EDUCABLE RETARDED CHILD AND HIS NEEDS	
3 THE EDUCABLE RETARDED CHILD	39
4 GUIDING PRINCIPLES AND FACTS	62
5 IMPLICATIONS FROM STUDIES OF COMMUNITY ADJUSTMENTS	75
6 OBJECTIVES FOR EDUCATIONAL PROGRAMS	87
Part III	
ORGANIZATION OF THE PROGRAM	
7 ORGANIZATION OF SPECIAL CLASSES	103
8 SELECTION OF CHILDREN FOR THE PROGRAM	125
9 GUIDANCE FOR RETARDED CHILDREN	146
Part IV	
DEVELOPMENT OF THE PROGRAM AT VARIOUS LEVELS	
10 GROWTH IN ATTAINMENTS	171
11 MEANS OF FURTHERING GROWTH	193
12 UNIT SELECTION AND PLANNING	209
13 CARRYING OUT THE UNIT	228
14 UNIT PREPARATION AND EXECUTION	251

CHAPTER	PAGE
15 UNITS FOR ELEMENTARY AGE GROUPINGS . . .	281
16 ACQUIRING THE LANGUAGE ARTS	292
17 ACQUIRING NUMBER SKILLS	324
18 THE SECONDARY SCHOOL PROGRAM	335

Part V

REHABILITATION SERVICES AND TRENDS

19 REHABILITATION OF THE MENTALLY RETARDED . . .	363
20 SIGNIFICANT TRENDS	376
INDEX	385

Part I

Focus on Retardation

I

Mental Retardation

Special education for exceptional children is recognized as an integral service within the total framework of the American public education system in every state. Special education is a service for the child who deviates physically, mentally, or socially to such a degree that he cannot derive an optimal education from the regular school program. Widespread recognition of the exceptional child's right to such a service is evidenced by the rapid growth of special education programs supported by state and local funds and the continuing expansion of such programs. This growth reflects faith in the American public school system and places responsibility on school personnel for implementing education that will bring returns to the individual and to the community.

Educational provision for the child who learns slowly and is mentally retarded is a part of this broader program of service for all children with marked deviations. Mental retardation was one of the earliest limitations to be recognized in the public school. Special classes for retarded children were organized in many large cities in the first two decades of the twentieth century. Although this handicap has been recognized as affecting 2 to 3 per cent of school age children and public school provisions have grown over the years, it was only at the mid-point of the century that this group of children and their needs received nationwide recognition.

Attitudes Toward Mental Retardation

The concept of mental retardation and attitudes toward it have undergone change. There were years when members of the medical, psychological, and social work professions held an attitude of finality about the condition of mental retardation. During the first three decades of the century there was a finality in the diagnosis and prognosis for the individual with an intellectual deficit of any degree. Children, youth, or adults who were pronounced mentally deficient or retarded were regarded generally as having mental limitations that precluded the possibility of treatment or education leading to social or occupational adequacy. These were individuals of doubtful social worth in the home or community. State institutions cared for many of them throughout life. In localities where public school administrators established special classes for the educable retarded, there was always the need on the part of the teachers to prove the social worth of the enrolled children. The concept of low mentality, inability to learn, and immature social behavior predicting social maladjustment was prevalent. The differences in mentality measured by intelligence tests became the dominant diagnostic and prognostic cue to failure in the school and in the community.

Recognition of Assets of the Retarded. Professional persons, however, who worked with these retarded individuals recognized their potentiality for developing life competencies in the sphere of the home and in the ranks of unskilled and semi-skilled labor. In the 1920's there came the colony and parole movement of the state institution looking toward the return of the more capable to satisfactory adjustment in home and community life. Follow-up studies of the ex-special-class pupils were made. Supervisors and devoted teachers of public school classes kept personal touch with their students and made records of social and occupational success for a promising majority. During the twenties published studies of the outcomes of the colony and parole movement and of public school special classes gave evidence that many of these pupils could be trained and educated for independence at their level of competency.

Despite the recognition by institutional staffs and public school teachers that many of the mentally retarded with appropriate education and guidance could become social assets, the concept of low I.Q. and inadequacy persisted. There were large numbers to be cared for in institutions, with minimum personnel to carry on colony and parole services for the more capable. The public school's concern was for academic success. Those with low I.Q.'s were the less desirable pupils.

It took special education supervisors and teachers about ten years or more to get the recognition that the majority of, if not all, mentally retarded children in special education classes have the capacity to grow up and benefit from secondary-school attendance with their peer age group. The secondary-school movement for placement and an occupational curriculum did not take hold until about 1950.

Indifference to Problems of the Retarded. Supervisors, teachers of special classes, and psychological examiners were early aware of individual differences within the group of mentally retarded children. Programs from the beginning were premised on the individual study and treatment of the physical and mental deviation of the child. When the social and emotional aspects of deviate child behavior were recognized in the Child Guidance Movement of the thirties, there was no recognition of the emotional problems of the retarded child. Psychological examiners and teachers received no help from this source. The records of child guidance clinics from 1925 on indicated that generally the psychiatrist and social worker dismissed mentally retarded children as unsatisfactory clients.

Study, treatment, and education generally then were left to institutional personnel, to private school personnel, and to public school psychologists, supervisors, and teachers who were responsible for special classes. There were years of neglect on the part of the medical, psychological, and social work professions and general educational personnel.

No longer is there indifference and neglect of individuals with mental retardation. One of the most gratifying developments of our time is the widespread interest and unprecedented focus on the field.

Varied Services for the Retarded. At the national level, there is manifest interest in research and services for the mentally retarded. Several divisions of the Department of Health, Education, and Welfare have assumed a major interest in the field. The National Institutes of Health are carrying on intensive research into causes, prevention, and treatment of mental retardation. The Children's Bureau grants for maternal and child health have been increased to subsidize the several states in carrying out special projects. State-sponsored demonstration programs provide services for early case finding, diagnosis, evaluation of growth potentials, and counseling with parents. The United States Office of Education has been authorized to grant approval, sponsorship, and financial subsidy to state universities, clinics, and public schools for cooperative research projects in education. A number of these projects are in the areas of the learning process, of curriculum, and of methods for educating the mentally retarded.

The Office of Vocational Rehabilitation has a strong state-federal partnership for attack on vocational handicaps, including mental retardation. Several states are sponsoring research and demonstration projects for vocational testing, training, and placement of the mentally retarded in full employment or in a sheltered workshop. Additional provisions for vocational counselor training will make available more personnel in this field.

Interest at state level is evident in the response of the states to federal subsidies available through the above-named federal agencies. State departments of health including divisions of mental health, of child welfare, and of rehabilitation are assuming leadership on behalf of mentally retarded children.

Interest at the local level is manifest in the growth of diagnostic clinics, of day school classes both public and parent sponsored, and of recreation programs. A number of city communities have beginnings in prevocational training and sheltered workshops for the trainable.

These varied and related services, medical, social, and rehabilitation, have significance for educational programs. Of all the services brought to bear on the problem, education and training during the child's formative years are receiving the greatest

attention. Focus is on the school age group of mentally retarded children and the wide differences in ability that must be recognized and planned for. These wide differences have particular significance as one views past and present day-school programs.

Potentiality of the Retarded for Education. Over the years the American public school has been concerned with the potentiality of the mentally retarded child for education. Early public school classes for the mentally defective included those with a wide range of ability from the very incapable to those bordering on dull normal intelligence. With the advent of the intelligence test there came the differentiation of those who could achieve some degree of academic learning from those who could learn only the oral symbols of language for very limited communication.

- A committee on special classes for the mentally retarded of the White House Conference on Child Health and Protection in 1930, under Dr. Edgar Doll's leadership, classified intellectually subnormal school age children in two groups: the "feeble-minded," those (below 50 I.Q.) incapable of achieving social and occupational adequacy; and the mentally retarded, 50 to 75 I.Q., who were capable of growing up to be socially and occupationally independent in home and community. Certain states had by this date set intelligence quotient limits, with a minimum level of 50 I.Q. for special class acceptance.

This criteria, then, carrying with it the concept of educational potentiality, differentiated mentally retarded children of school age into two groups: the higher educable group accepted by the public school and the lower uneducable group not accepted.

- The children less capable than the educable group, measuring approximately 25 to 49 I.Q., and judged to be incapable of any academic learning or of becoming independent socially, were excused from public school attendance, were committed to a residential school, or remained at home. A few of the larger cities, among them Detroit, New York, and St. Paul, Minnesota, continued to provide some classes for children below 50 I.Q.

With the widespread recognition at mid-century that severely retarded children, those less capable than the educable group,

can no longer be overlooked by the community and the state, an appeal to the school as a public agency for serving "all children" was vigorously made. When a state department assumed the responsibility for their education, there was need for definition, for identification and diagnostic procedures, for requirements for school admission and program. Terminology and definition to differentiate this program from the established programs for the educable child was an important consideration.

Terminology and Classification

Terminology and definitions to serve the purpose of education for the mentally retarded in the public school program have always presented a problem. In the early years, the terms "sub-normal," "mentally deficient," and "mentally defective" were used. Later, when the public school refined its policy to admit to special classes only those with limited academic potentiality and the programs grew, the terms "mentally retarded," "mentally handicapped," "educable," and "slow-learning" came into use.

"Mentally retarded" was introduced to apply to the child with potentiality for social and occupational adequacy in distinction from the mentally deficient child without such potentiality. "Mentally handicapped" was used to differentiate this type of deviation in the school age population, that is, different from physical handicap.

"Educable" put the emphasis on a degree of intellectual potentiality for accepted school subjects and for community living, in contrast to "uneducable," referring to those without such learning potential. "Slow-learning" was introduced to connote potentiality for learning slowly, and to recognize ongoing growth and school progress for the individual in contrast to the terms "mental" or "handicapped," emphasizing limitation. The term "slow-learning" connotes also the learning needs and desires that these children have in common with the larger group of school children. Focus should not be on mental difference, but on a like goal for all children, namely, to free the growing child to learn and to develop his abilities to the fullest capacity.

When, following mid-century, public schools in a number of states assumed responsibility for the severely retarded child who had earlier been excused from school for home or institutional placement, the words "trainable" or "severely retarded" became the generally accepted ones to define this particular group.

The use of "mental retardation" rather than "mental deficiency" is recommended by the American Association on Mental Deficiency as the expression to include all levels of retarded intellectual functioning or intellectual potentiality from the lowest to approximately 75 or 80 I.Q.

The following outline of classification and terminology will clarify the degrees of mental retardation.

I.Q. 0-25	I.Q. 25-49	I.Q. 50-75*
M.A. 0-2	M.A. 2-7	M.A. 7-10
Very severe	Severe	Moderate
Custodial	Trainable	Educable (Slow-learning)
Dependent	Semidependent	Independent or marginally independent
Incapable of self-care.	Can learn self-care and to adjust socially. Incapable of academic work. A few capable of very simple work in a protected work situation.	Can develop social and occupational adequacy; capable of unskilled or semiskilled work. Can achieve academic work to third, fourth, or fifth grade level, sometimes sixth.

* I.Q. 75-89 is borderline, sometimes classified as mentally retarded, sometimes normal.

The psychologist generally applies the term "mentally retarded" or "mentally handicapped" to children who measure approximately 25 to 49 I.Q., or 50 to 75 I.Q., and comprise the lowest 2 to 3 per cent in learning ability of school age children. Many psychologists limit the use of the term "slow-learning" to the borderline and dull-normal groups of approximately 75 to 89 I.Q. who comprise 15 to 18 per cent of the school population.

Special education in the public schools is concerned with the children classified as "trainable" and "educable" who have deviations so marked in intelligence that they cannot have optimum success in developing their potentials in the ordinary classroom.

In making provision for public school programs for retarded children, the state laws and supporting regulations differentiate between the two groups in terminology, definition, and educational program.

The Trainable. "Severely retarded" or "trainable" is the term used to identify the child of low intelligence level, approximately 25 to 49 I.Q. These are the children whose mental potential limits them from acquiring the symbols of the culture. They will not achieve anything beyond the rudimentary symbols of spoken language. Their inability to conceptualize, associate, recall, and reason prevents them from benefiting from instruction in reading, writing, or numbers. They can learn self-care, social habits, and routine skills for life in a sheltered environment. They are trainable but not educable, due to a severe degree of low intelligence existing from birth or an early age.

In adulthood they will not mature socially beyond the level of the usual four-, five-, six-, or seven-year-old. A few of the more capable may be able to carry on unskilled routines for small remuneration under close supervision in the home or in a sheltered workshop.

The severely retarded child presents a different problem and the program provided is different in kind and degree from the already established programs for the educable or slow-learning child.

The New Jersey law passed in 1954 reads: "Trainable mentally retarded children are so severely retarded or socially immature that they cannot be classified as educable but are, notwithstanding, potentially capable of self-help, of communicating satisfactorily, of participating in groups, of directing their behavior so as not to be dangerous to themselves or others and of achieving with training some degree of personal independence and social and economic usefulness within sheltered environments . . ."

Maryland regulations state more definite requirements as follows: "Whenever seven or more children, who are classified as severely mentally retarded on the basis of an individual psychological examination (approximately 55 and below) and

clinical findings, can be brought together, a special center may be organized

1. If such children are able to participate in group activities with profit to themselves and without injury to the group
2. If such children are able to learn to care for their personal routines independently
3. If such children are sufficiently controlled emotionally to respond to a teacher-pupil class relationship
4. If such children have trainable motor skills
5. If the school system has facilities adequate for their educational needs."

The Educable or Slow-Learning. About 2 per cent of the school population have definite mental limitations so extreme that their failure to succeed in school with average children is conspicuous. These children require a special program of mental, social, and emotional education if they are to become wholly or partially self-supporting. For the recognition and education of such children state legislatures throughout the United States have made special provision.

State laws making provision for their education are accompanied by regulations referring to such matters as size of special class, eligibility for pupil enrollment, and qualifications of teachers. Two of such state regulations define the mentally retarded who are eligible for special education as follows:

The California Education Code reads:

"Mentally retarded minors" means all minors of compulsory school age who because of retarded intellectual development as determined by individual psychological examination are incapable of being educated profitably and efficiently through ordinary classroom instruction but who may be expected to benefit from special facilities designed to make them economically useful and socially adjusted.¹

The Florida State Board Regulations read:

A slow-learning child is defined as an educable child or youth who because of intellectual retardation is unable to be adequately educated in the public schools without provision of special educational facilities and services. . . . Each child must be recommended by a psychologist

¹ *California Education Code Provisions Relating to the Education of Mentally Retarded Minors*. Sacramento, California (1980).

for entry in a unit for children who learn slowly. The intelligence quotient of children . . . will range approximately from 50 to 75 I.Q. The recommendations for entry will be based upon a complete study of all factors, physical, social, mental, and educational.²

The intelligence quotient range from 50 to 75 is the approximate range most widely accepted. Certain states, however, do not state any I.Q. range but place the responsibility for the selection of candidates with the qualified psychologist, who is certified by the state board of education. The California law, and Illinois Plan, for example, do not specify an I.Q. range, but place the major responsibility of selection of pupils upon the certified psychologist.³ This provision is made to safeguard the all too prevalent practice of relying on mental ages and I.Q. without due study of all factors affecting learning.

On the psychologist there falls the responsibility for a thorough study of health, physical defects, motor proficiency, environmental conditions and pressures, emotional conflict or blocking, experiences of failure, mental capacity, and degree of social maturity.

The educable mentally retarded are generally classified in the intelligence quotient range of approximately 50 to 75. The majority of these pupils at 15 and 16 years of age will have mental ages from 8 to 10 years and will not have succeeded beyond minimum third-, fourth-, or fifth-grade academic standards when measured in terms of grade achievement. Some may have achieved more.

In addition to the criteria of slow mental development and educational retardation, persons of the mental capacities indicated are for the most part slow to meet the normal social demands of their age groups. With regard to social traits that are generally accepted as correlates of intelligence, such as leadership, adaptability, and dependability, they respond inadequately.

² *Developing a Program for Education of Exceptional Children in Florida* (Bulletin No. 55 [Tallahassee, Fla.: State Department of Education, 1948]), p. 95.

³ *California Education Code Provisions Relating to the Education of Mentally Retarded Minors*. (19805), *op. cit.* See also *The Illinois Plan: Handbook and Manual for Qualified Psychological Examiners* (Supplement to Circular Series "B," No. 12 [Springfield, Ill.: Office of State Superintendent of Public Instruction, 1949]).

In social situations that call for planning, practical judgment, and common sense, they rate below average. As adults the majority will be found in the below-average group of unskilled and low-skilled workers able for the most part to adjust industrially and socially at that level.

The Borderline or Dull-Normal. Educators have been concerned also over the years for the retarded overage child who, although slower than the average, does not qualify for special education programs. These children are classified as the "borderline" or "dull-normal" group, comprising about 15 to 18 per cent of the school population with an approximate I.Q. range of 75 to 89. These children are unable to satisfy regular grade standards year by year and are retarded in their academic achievement for their age group. The large majority are able to succeed in the grades with some adaptations. However, in school systems that make no provision for these pupils in a flexible grade plan and an adapted high-school curriculum, the dull-normal child who is educationally retarded in his progress from year to year often becomes socially maladjusted and in some school systems may then be placed with the mentally retarded group. This treatment is unfair to him since his potential capacity is greater than those assigned to special education classes. During his school life and in adult life he is capable of more adequate adjustments.

Factors Affecting Learning. Although intelligence may be the most important single factor in learning, physical development and conditions of health, school attendance, personal make-up, and social maturity are all operative. Although the majority of children with intelligence quotients of 70 or below may be regarded as mentally retarded and may require a specialized program designed for the lowest 2 per cent in learning ability, conditions other than intelligence may be the deciding factors for many children with I.Q.'s approximately 70 or above. There are, for example, many pupils with I.Q.'s between 70 and 80 who can succeed fairly well in academic work in a flexible grade organization or in a small grade group where the academic work is individualized. These are the pupils with so-called borderline intelligence whose progress has been aided by such favorable

factors as emotional stability, a good home environment, an adjusted school program, a history of regular school attendance, an understanding parent and teacher, or normal physical development and good physical condition. A pupil with an intelligence quotient between 70 and 80, on the other hand, may need a specialized program planned for the mentally retarded because of the operation of such deterring factors as immature physical development, a sensory defect, emotional blocking or instability, irregular school attendance, repeated habits of failure in the grades, or an extremely adverse home environment. In each instance all factors must be considered and the diagnosis and assignment for an educational program must be based on the individual merits of the case.

Responsibility of the School

The public school which accepts responsibility for the trainable child must understand his needs and provide a very different program than the generally accepted program for the educable child. The following chapter is therefore devoted to a discussion of the needs of these children and to educational programs that are in process of development.

The greater responsibility rests with the school, however, to discover and serve those educable children who require special education to become socially and economically adequate. Their numbers are larger and their potential return to the community greater. An educational plan for them must be predicated on the fact that, although their rate of mental and social development is slow and their learning capacity is more limited than that of the larger group of usual children for whom the grade curriculum is planned, they have specific social and academic needs that the school can satisfy.

The major parts of this text are therefore devoted to the educable group. Part Two is given over to a discussion of the characteristics, the capacity, and the needs of the retarded child who is slow-learning and educable. Parts Three and Four present suggestions for the development of educational programs designed to foster all-around growth and functional outcomes.

The principles and programs discussed throughout can readily be applied to the borderline or dull-normal child who is slow-learning.

Questions and Suggestions for Study

1. How are slow-learning children described in the Ohio State Bulletin listed in the Reading References?
2. Consult the reference by Douglass and report on the national program for the mentally retarded.
3. Why have negative or indifferent attitudes toward the mentally retarded persisted for so long a time?
4. What terms are used by your state and local school system to define the mentally retarded?
5. Why is there need for redefinition of terms in the area of mental retardation?
6. Discuss the reasons for focus on the trainable; on the educable.

Reading References

ALLEN, AMY A. *Let Us Look at Slow-Learning Children*. Columbus, Ohio: State Department of Education, 1947.

Describes the characteristics of slow-learning children, 50 to 75 I.Q., and the program provided for them in Ohio.

DOUGLASS, JOSEPH H. "A National Program for Mental Retardation: A New and Better Beginning," *American Journal of Mental Deficiency*, 62 (Mar., 1958), 777-86.

Discusses the awakened interest in mental retardation and activities of federal agencies in the Department of Health, Education, and Welfare.

HUNSON, MARGARET. "The Severely Retarded Child: Educable vs. Trainable," *American Journal of Mental Deficiency*, 59 (Apr., 1955), 583-86.

Cites limitations in using I.Q. for differentiating between "trainable and educable" retarded children. Urges proper methods and materials in encouraging the trainable child to achieve desirable work habits, social attitudes, and skills.

INGRAM, CHRISTINE P. "Changing Concepts in Education for Children with Handicaps," *Educational Administration and Supervision*, 30 (Oct., 1944), 385-407.

Reviews the early educational developments based primarily on limitation and stresses trends in the concept of the developing personality freed to develop his potential assets.

KANNER, LEO. *A Miniature Textbook on Feeble-Mindedness*. New York: Child Care Publications, 1949.

Discusses current trends in classification of mental retardation.

SLOAN, WILLIAM, and BIRCH, JACK. "A Rationale for Degrees of Retardation," *American Journal of Mental Deficiency*, 60 (Oct., 1955), 258-64.

One of several attempts to devise a scheme for describing and quantifying degrees of mental retardation. The proposed scheme, having numerical classification with four levels, differentiates between the "trainable" and the "educable" child.

WIRTZ, MARVIN A. "The Development of Current Thinking about Facilities for the Severely Mentally Retarded," *American Journal of Mental Deficiency*, 60 (Jan., 1956), 492-507.

A brief historical review followed by a discussion of definition, terms, educational trends, and recent opinions and studies.

The Severely Retarded Child

Severely retarded or trainable children have been defined in the previous chapter. They range in learning ability from approximately 25 to 49 I.Q. and are uneducable in terms of academic skills and occupational adequacy. Over the span of childhood and adolescence their progress is very, very slow. Yet, they can learn to become independent in self-care, in social habits, and in simple routine tasks by the age of 15 or 16 years. Mentally, however, they will have reached the level only of the four-, five-, six-, or at best the seven-year-olds. Their rate of mental growth has been three-fourths to one-half that of usual children of their same chronological ages. Qualitatively the oral language that they have learned is inferior to that of usual children of the same mental level. A few may be able to recognize and print their names and a few words, but they lack the capacity to learn and use the symbols of communication. In this respect, there is marked contrast to the educable child who has a degree of potentiality for learning and utilizing communicative symbols. This chapter is devoted to consideration of the trainable child's needs and the development of programs on his behalf.

Need for Programs

A movement with its focus on the trainable child has grown out of the recognition at mid-century that provision for this particular group of children nationwide was markedly inadequate.

quate. Public school programs were generally not available. State institutional care at its best lacked space to admit long waiting lists and lacked staff to provide child training. Admission and diagnostic procedures were generally limited to routine medical and psychological testing. Placement in private schools with high tuition offered the better solution for those in the higher socioeconomic brackets. Many parents preferred to keep their children at home, while others had no choice.

State Programs. A few state departments of welfare and state schools had moved in the later 1930's and 1940's to meet the condition in part. The Division of Mental Deficiency of the Massachusetts State Department of Mental Health, in surveying the status of the retarded in the late thirties, found that there were many children of school age at home who were excluded from kindergarten and special class because of their very low mental rating. Chronologically they were from 4 to 16 years of age, and mentally they were from 1½ to 5 years of age. Most of these children had been recommended for institutional care by psychiatrists but had not been admitted to the state schools either because of the overcrowded conditions or because the parents wished to keep their child in the family circle as long as possible. Many of the parents who had done admirable work in teaching good habits and discipline felt the need of some kind of educational and recreational training for these children. The parents were anxious for help and willing to cooperate in any way possible. Local school and community facilities offered no assistance or resources.

In response to this need, the Division of Mental Deficiency set up a program of home training.¹ Lessons were planned for three ability groups of boys and girls with low mental ages. The Division social worker was assigned monthly home visitation to initiate and demonstrate to the parents how to carry out the series of training lessons. At each visit the mother observed the manner in which the social worker taught the lesson to the child so that she might continue daily teaching until the next

¹ Marion A. Nugent, "A Home Training and Teaching Program for Mentally Defective Children To Be Taught by Parents in the Home," *American Journal of Mental Deficiency*, 46 (July, 1940).

visit. Before each lesson, the child had the opportunity of showing what he had learned and accomplished since the social worker last saw him.

The Walter Fernald State School in Massachusetts in 1945 set up a day class at the institution for children on the waiting list.² Parents cooperated in transporting the children. Class groupings of younger and older children facilitated the provision of needed learning experiences. Parent groups were given an opportunity to discuss their mutual problems with the staff. The children became more independent at home and the mental attitude of the mothers improved.

New Jersey began a program of home training in 1943.³ The purpose was to educate parents to better understand the problems attending retardation and to train the child in better home living. Children on waiting lists from both rural and urban areas were served by the home training teacher. Successful practices were developed which resulted in parental acceptance and child adjustment to home and community. But while these programs greatly aided the situation in a particular state, they only met the need in part.

The Parent Movement. The nationwide impetus to provide more adequate programs has grown out of parent organizations. The organization in 1934 of the Children's Benevolent League of the State of Washington, composed primarily of parents of retarded children in the state residential schools, stimulated similar organizations in other states. The nationwide movement for the care of cerebral palsy children initiated in the 1940's by parent groups brought to the attention of the medical and social profession the number and needs of children with serious handicaps. In the clinical studies of children which followed, some were diagnosed as mentally deficient; many were diagnosed as mentally deficient without cerebral palsy. These were children of preschool age or older whose parents for the most part refused

² Malcolm J. Farrell, Mildred F. Brazier, and John T. Shea, "A Day Class for Community Pupils in an Institution for the Mentally Retarded," *American Journal of Mental Deficiency*, 53 (Oct., 1948), 187-92.

³ Lloyd N. Yepsen and Vincentz Cianci, "Home Training for Mentally Deficient Children in New Jersey," reprint from *The Training School Bulletin* (Apr., 1946).

residential school placement. Parents of mentally handicapped children then joined forces in many communities and organized programs on a private basis, securing financial aid from private agencies, local industry, and other interested groups. The National Association for Retarded Children was organized in 1950 at Minneapolis, Minnesota, by parents from nineteen different states.

From surveys of incidence in Illinois and Michigan it was estimated that for one thousand school age children there were one to two trainable children in the community, and one trainable child in an institution.⁴

When the great need for an educational or training program was recognized, the parent organizations turned to the school, the best-known agency serving "all the children of all the people."

Response of the School

Many state legislatures, state departments of education, and local school districts have responded to the challenge to serve this particular group of children.

The California, Minnesota, and Wisconsin legislatures in 1951 were the first to authorize public day school classes for the trainable. Growth was rapid. The ensuing years added to the number of states making provision within the public school system, either through the enactment of new laws or through broad interpretation within existing laws. By 1960 the majority of states had legal provision for special classes for the trainable within the framework of the public school system. Certain cities in states without legislation established classes with the consent of the local board of education. Ohio, under supervision and subsidy of the State Department of Mental Health and Correction, provides community classes throughout the state. This is the one state that has designated a nonschool agency having welfare as its function, in preference to the public school.

⁴ Marvin A. Wirtz and Richard Guenther, "The Incidence of the Trainable Mentally Handicapped Child," *Exceptional Child*, 23 (Jan., 1957), 172.

No recognition generally was given to the fact that many psychologists and educators questioned the rapid movement to incorporate a training program for the severely retarded within the framework of public education. The differentiation in the thirties between those retarded who could acquire sufficient symbolization and literacy to become independent members in our society and those who lacked the mental capacity for such achievement reflected a concept of education and of the function of the school that has been inherent in the development of American public education from the beginning.⁵

In the early fifties when the movement for public school acceptance of the severely retarded was gaining momentum, the purposes for organizing classes were stated as follows in a United States Office of Education Bulletin:

1. While a very small percentage of the more severely retarded group, even under optimum training conditions, may be able to achieve a limited degree of self-direction (and a few may be able to participate in sheltered workshop activities when these are available), a larger number will achieve a moderate degree of personal and social development and become economically useful in their own homes. For these children the class will provide training experiences that will enable them to develop to the fullest extent possible the limited abilities which they possess.

2. Lack of responsiveness because of severe conflicts, social immaturity, physical involvements, or speech retardation may result in inadequate measurements of intellectual ability and influence the examiner to reserve his judgment relative to the potentials of a number of mentally retarded children. These children may respond more adequately to repeated testing procedures after effective socializing experiences have been provided. A few may eventually become candidates for the regular special class groups for educable children. For such children the training class may afford opportunities for observation and further study.

3. Another purpose of the class for the severely mentally retarded will necessarily involve its screening functions, for not all of the children assigned on the basis of initial tests and preliminary observations will prove capable of training and personal adjustment in a public-school situation. Only observation over an extended period during which stimulating experiences are provided will allow the teacher and

⁵ William M. Cruickshank, "Planning for the Severely Retarded Child," *American Journal of Mental Deficiency*, 61 (July, 1956), 3-9.

psychologist to render an adequate evaluation of certain pupils' potentials for training. Undoubtedly, a substantial number of the children referred for training-class placement will require eventual institutional care. A corollary of this purpose is that the training class must provide opportunities for the counseling of parents in regard to institutional placements in those instances in which pupils do not indicate the necessary capacity for growth and development . . . it is important to recognize that the purposes of the training class go beyond what it can offer the pupil and extend to the needs of parents for understanding and guidance.⁶

These purposes tended to imply retention in home and community for many rather than institutionalization. Hence there was a search for data on adult life adjustments of the severely retarded.

Follow-up Studies

Although the institutions know the limits of those who come to adulthood within their walls, there is little known of the lives and behavior of severely retarded adults residing in communities. There have been practically no studies of programs of treatment or training and their outcomes in either the residential school or the public school. What of the large majority who live out their lives outside of institutions? What of this number who attended public or private school classes?

District of Columbia and St. Paul Studies. One published study of over a hundred children excluded from the public schools of the District of Columbia is available.⁷ Jewell states the disposition of the cases that were located and for whom major data were gathered as follows: 34 had been committed to institutions, 21 were certified for commitment, 80 were still in the community, 10 were deceased. The study is concerned mainly with home and community adjustments. Jewell concludes from the data gathered that the majority were well ad-

⁶ Arthur S. Hill, *The Forward Look: the Severely Retarded Child Goes to School*, U.S. Office of Education Bulletin, No. 11 (1952), p. 10.

⁷ Alice M. Jewell, "A Follow-up Study of 190 Mentally Deficient Children, Excluded Because of Low Mentality from the Public Schools of the District of Columbia, Divisions I-IX, September 1929 to February 1940," *American Journal of Mental Deficiency*, 45 (Jan., 1941).

justed in home and community and had not been a problem. A very few had been employed and successful in holding a job. Of the parents of 78 children interviewed, about 50 per cent expressed a desire for day classes; about 28 per cent stated a need for help in giving their children better training in the home; about 25 per cent expressed need for some kind of institutional care. Jewell concludes that parents can care for their severely retarded children at home and suggests three means of help: day school centers, a home visiting teacher, and a social worker to help in child and family adjustment.

Another study was made in St. Paul, Minnesota.⁸ The Board of Education of St. Paul has maintained classes for the severely retarded since 1934. In a follow-up study of 84 pupils who had earlier attended these classes, it was found that 66 still resided in Minnesota, 9 were deceased, and 9 had moved out of the state. For the 66 available for study, the average length of attendance in school was five years and the average of the latest recorded intelligence rating was 36.2 I.Q., two having I.Q.'s below 25 and three having I.Q.'s above 50. Of the 66, 25 were in institutions and 16 were making adjustments superior to the average institutional inmates of their ages. The majority were helpful in carrying out routine institutional tasks. Of the 66, 41 were at home. Of this number, 31 were rated independent in carrying out the necessary personal and health habits. Speech was understandable in the majority, although language was very limited. Reported to be accepted in their neighborhoods were 27; 10 males had some listing of employment, full or part-time. Of two males working full time, one had an I.Q. average of 50, the other an I.Q. of 55. Two others employed at the time of the study were doing yard work and golf-caddying part time. Parents interviewed stated certain benefits from public school attendance. The conclusion was that many children could be cared for in home and community rather than in an institution.

These two studies are in striking contrast to the many after-school and after-institution studies of the educable. Recogniz-

⁸ Harold A. Delp and M. Lorenz, "Follow-up of 84 Public School Special Class Pupils with I.Q.'s Below 50," *American Journal of Mental Deficiency*, 58 (July, 1953).

ing this gap in data for the severely retarded, the New York State Mental Health Commission carried out a study project to determine just what happens to a group of mentally retarded children who remain in the home and community during their formative years.

New York City Project. The New York commission chose as subjects 520 severely retarded adults, ages 17 to 40, who had attended during the years 1929 to 1955, New York City public school classes for children not eligible for the state-approved program for the educable.

The project was designed to explore the following areas: (1) characteristics of the severely retarded and their families, (2) institutionalization, (3) home adjustment, (4) community adjustment, (5) vocational adjustment, (6) use of community resources, and (7) planning for the future.

The study was based on interviews with the parents of these 520 severely retarded adults, and was conducted by trained social workers. Additional information was secured from the records of the State Department of Mental Hygiene, the Social Service Exchange, and school records of the Board of Education of the City of New York. A limited number of the group were given intelligence tests.

Excerpts from the report of the study follow:

Most of the retarded appeared alert and lively, taking an interest in life around them. One-third were markedly self-confident and able to assert themselves. Lack of affect (13%), inattentive and lifeless behavior (7%) were rare. . . . Neurotic trends were suspected in twenty per cent of the cases seen, and psychotic symptoms in six per cent.

Secondary physical handicaps were observed among three-fourths of all retarded adults living at home. . . .

The parents of the severely retarded did not differ substantially from other parents in the city . . . less than ten per cent appeared to be below normal intelligence. One of the most striking findings was the extent to which the parents, regardless of their own background and station in life, accepted their retarded child. . . .

Two-thirds (66%) of all former pupils were living in the community. Twenty-six per cent were institutionalized; the remaining eight per cent had died since leaving school. . . . Institutionalization took place most often in broken families, or families marked by low

cohesion. . . . Only 12% of all severely retarded coming from warm, closely-knit families were found in State schools, as compared to 39% of all cases coming from families marked by high tension and conflict. . . .

The parents gave most often as the reason for their decision to institutionalize: concern for other family members (52%), the behavior of the retarded (43%), and death or illness in the family (36%). Difficulty in providing adequate supervision also was frequently mentioned. . . .

Most parents felt that their retarded child was easy to get along with, and presented no major difficulties (75%). Only 5% considered their child difficult to handle. . . . One-half (48%) took responsibility for taking care of their own things, cleaning their rooms, making their beds, hanging their clothes away, and additional 38% did so at least occasionally. . . . Most parents (80%) felt that their child could be left alone safely.

Seventy-eight per cent of them went out alone at least occasionally. Only one-third of the total group, however, was able to leave their immediate neighborhood, take buses and subways by themselves. . . . While 61% of the younger retarded (seventeen to twenty years of age) were said to have friends, only 35% of the older group (over thirty years of age) had any friends. . . . Few of them (11%) got into any trouble. . . .

Twenty-seven per cent of those severely retarded residing in the community worked for pay. An additional 9% had previously worked but are now without a paid job. . . . The majority work outside a sheltered environment. . . .

Only 20% of the parents looked ahead to placing the child in an institution.⁹

These findings indicate that many trainable children in New York City who attended public school classes are living acceptably in their homes and are not a liability to the family or to the community. Furthermore, some are wage earners.

As parent groups in several states pressed for educational programs, the need to have objective data and an objective approach as a basis for developing and evaluating programs of education and training in the school age years was evident. Studies were initiated by state departments of education and private agencies.

⁹ Gerhart Saenger, *The Adjustment of Severely Retarded Adults in the Community* (Albany, N.Y.: New York State Interdepartmental Health Resources Board, 1957), pp. 160-68.

State Projects in Education

Certain states, among them Minnesota, Illinois, and New York, designated commissions to study the field of mental retardation and initiate research studies or projects. The purpose was to determine the potentialities of the severely retarded, the nature of appropriate educational and training programs and their value.

Pilot projects were designed by Illinois and New York State to discover such facts as incidence, the characteristics, potentialities and needs of the severely retarded, and the problems and attitudes of parents, as well as the nature and methods of appropriate curriculum.

The state department of Illinois carried on a two-year study from 1953 to 1955.¹⁰ During the first year data were recorded and evaluated for 173 children in 22 classes with 24 teachers; in the second year data for the two years were completed on 125 children. The more significant results are summarized.

The children at entrance ranged in chronological age from 5 years, 10 months to 16 years, 7 months, with an average age of 10 years, 6 months. Intelligence results on psychometric tests, namely Stanford-Binet, Kuhlmann Tests of Mental Ability, Merrill-Palmer Scale, and Ontario School Ability Scale, showed an average I.Q. of 33.9. Retests at the end of the first year showed a slight increase. During the second year there was no increase but a return to the original rate of mental development. No significant acceleration in mental growth was shown over the two-year period.

Approximately 7 per cent of the children after one year showed sufficient growth for transfer to classes for the educable mentally handicapped. These were children who had I.Q.'s that averaged 52 upon admission. These children showed more gains in I.Q. ratings than did the rest of the group.

After a trial period of from six weeks to two years, 22 children were excluded from the program. These children tended

¹⁰ Herbert Goldstein, *Report Number Two on Study Projects for Trainable Mentally Handicapped Children* (Springfield, Ill.: State Office of Public Instruction, January 1, 1956).

to have mental ages below two years and social quotients below 35. Later exclusions included practically all of the children with Kuhlmann-Binet I.Q.'s below 25.

An extensive check list of behavior traits before and after training was made out by parents and teachers to rate individual levels of development. This check list included items of personal and safety routines, play, social, property, and language behavior. Progress was evident during the first year of the program, but gains during the second year were negligible. Parent interviews initially and at the conclusion showed favorable evaluation and desire to continue the program. Parents tended to become more realistic about their children's abilities and future expectations.

The project resulted in school administrators being favorable to community provisions for the trainable child, rather than to institutionalization. They were not in agreement, however, regarding what department, education or welfare, should administer the classes.

Findings were similar in a New York State study of 17 experimental classes for the severely retarded covering a period of two years from 1954 to 1956.¹¹ Of these classes, 7 were located in public schools and 10 in state institutions.

In addition to tests used in the Illinois study, the Fels Child Behavior Scale and an articulation test were given.

The findings of both studies were similar and the following conclusions were drawn:

1. Children with I.Q. below 30 will derive little benefit from such a program.
2. A general improvement will parallel the growth curve indicated by the I.Q. scores. Any changes will be of such a nature as to have no effect on the prognosis of the individual in as far as his personal, social, and economic adjustments are concerned.
3. Despite the fact that small improvements will occur in general habit and social skills, the problem of the severely

¹¹ G. Orville Johnson and Rudolph J. Capobranio, *Research Project on Severely Retarded Children* (Albany, N.Y.: New York State Interdepartmental Health Resources Board, 1957).

retarded is not resolved. It remains one of training for self-care and socialization without prognosis for eventual independence. The findings of these studies indicate that a program of *life-planning* is necessary for the severely retarded individual.

Kirk draws the following conclusions :

Research leading to an evaluation of final results with the severely retarded is a difficult task. What is needed to answer many of the questions is longitudinal research over a period of ten or fifteen years with adequate control groups. Until we have such a study, general conclusions about the effects of educational programs on the development of the severely retarded child are speculations based on pieces of evidence from short-term studies.¹²

Illinois Curriculum Guide. The Illinois State Department of Special Education issued a curriculum guide as the outcome of the two-year study project.¹³ This guide states that the curriculum is designed so that the child may learn self-care, social adjustment, and economic usefulness. The organization of experiences and specific objectives are centered around these three major goals:

1. *Social adjustment:* Participating; accepting responsibility
2. *Self-care:* Developing personal routines; developing safety routines; developing health routines
3. *Economic usefulness:* Preparing and serving simple meals; cleaning, making beds and/or cots; shining shoes; laundering; caring for yards, caring for pets and plants; running errands; sorting, folding, stuffing envelopes; sewing; wood-working

The abilities named below in physical, communicative, expressive, and "doing" skills are listed in column form in the guide with appropriate learning experiences paralleling the desired ability. These learning experiences are designed to result in progress toward fulfilling the three major goals.

¹² Samuel A. Kirk, *Public School Provisions for Severely Retarded Children: A Survey of Practices in the United States* (Albany, N.Y., State Interdepartmental Health Resources Board, July, 1957), p. 77.

¹³ *A Curriculum Guide for Teachers of Trainable Mentally Handicapped Children* (Circular Series B-2 [Springfield, Ill.: Office of Public Instruction, 1955]).

1. *Physical training*: gross muscle activities, gross muscle activities with equipment, smaller muscle activities
2. *Language*: perceiving, imitating, naming, using and understanding connected language, performing skills
3. *Music*: perceiving, singing, performing body rhythms, playing in rhythm band, singing games and dancing, using radio, record player, and television
4. *Arts and crafts*: drawing and painting; tearing, cutting, folding, pasting; printing; modeling; weaving, tying, lacing, and making patterns; constructing; embroidering and constructing; creative play at sand table

Specific suggestions are given for the organization of the class and the learning experiences of the daily program. Working with parents individually and in groups with suggestions for reporting to the home is the subject of the final section. An examination of the plan and content stated in other curriculum guides for the trainable shows a general similarity to the Illinois concept of goals and program.

Parent Counseling

Throughout the period of development of parent organizations and their appeal to the medical profession and to boards of education, there was evidence of the parent's need for understanding the child's problem, for acceptance of it, and for realistic planning. Accordingly, principles and practices of parent-counseling have developed and should form a vital part of any program for the trainable. In no area is there greater need for home and school to work together.

When given the opportunity parents will readily express themselves to physicians, psychologists, social workers, teachers, or to other parents. Kanner, a psychiatrist, summarizes parent feelings and attitudes that need recognition.¹⁴ He states that parents "invariably air their emotional involvements in the form of questions, utterances of guilt, open and sometimes impatient rebellion against destiny, stories of frantic searches for causes,

¹⁴Leo Kanner, M.D., "Parents' Feelings About Retarded Children," *American Journal of Mental Deficiency*, 57 (Jan., 1953), 375-83.

pathetic accounts of matrimonial dissension about the child's condition, regret about the course that has been taken so far, anxious appraisal of the child's future, and tearful pleas for reassurance."

Kanner distinguishes three principal types of reaction. One is the mature facing of reality in accepting the child as he is, giving him attention as a member of the family group and on the other hand, not giving undue attention and time which belongs to the rest of the family. The second type of reaction is the recognition that the handicap is present, and that something must be done, but with tendencies to admonish the child for his inadequacies, to blame those who are trying to teach him, and to exert pressure for speeding up his activities. In addition, possible physical deviations are singled out for correction and treatment. The third reaction is complete inability to face the reality in any form, which results in the parents acting on the premise that there is nothing wrong with the child. They avoid the unpleasanties and the pleasanties in the child's behavior in their drive to believe he is like other children.

These reactions have to be given serious consideration from the standpoint of understanding the parents' problem and working toward its solution. No two situations are alike. The first need is to give the parents assurance that their child will be given careful examination and study, not only medically, but psychologically. Parent counseling to bring about understanding and acceptance should follow. Individual and group parent guidance to meet the problems as they arise has been successful. The aspect of parent guidance and counseling should be a correlate of any program for the child.

General Pattern of Classes

Severely retarded children are served in day classes operated by parent groups or by public schools and in still others organized as private-tuition day schools. A survey of these classes was made under the sponsorship of the Education Committee of the National Society for Retarded Children to discover procedures and to summarize them for the purpose of stimulating

and promoting optimum programs. The following information summarized from the report gives an overview of significant aspects found in the majority of programs.¹⁵ Of the 196 questionnaires returned, 59 were complete enough to use in making the analysis. The questionnaires used represented 20 schools or classes operated by parent groups, 31 classes operated by local school systems with or without state subsidy, and 8 private day schools.

Of the children assigned to these classes, there is a majority of boys (57 per cent) and girls (43 per cent), ages 5 to 15 years, with I.Q. ranges from 25 to 50 with a median I.Q. between 40 and 44. The types of problems are predominantly Mongolism and brain injury.

The following factors are present in selection of children. The children must: (a) be ambulatory, (b) be toilet trained, (c) be able to see and hear, (d) show some readiness for training, and (e) be reasonably free from antisocial behavior.

Some classes attend for an all-day session, or one class may be scheduled in the morning and another in the afternoon.

The objectives stated are very specific and are classified in the report under the following headings: physical health, self-help, stimulation of imagination and creative expression, social development, motor development, intellectual development, and unclassified.

The day's program consists of varied activities, the largest percentage of time being given to free play and directed play. Blocks of time are given to handwork, music, reading stories and conversation, games, writing and reading of child's names, and simple word forms. While the findings indicate common objectives, activities, and organization of the daily program, there are variations related to the particular community served.

More recent studies reflect the same general pattern in day school classes. The privately sponsored class, however, under parent and/or community auspices is sometimes less restrictive in its admission policies. More dependent children with multiple handicaps and at an earlier age are admitted. As one

¹⁵ Elizabeth M. Boggs, "Day Classes for Severely Retarded Children," *American Journal of Mental Deficiency*, 58 (Jan., 1954), 357-70.

director of such a center with a qualified staff of nurse, physical therapist, speech specialist, and teachers stated, "We want to be flexible in our admission procedures and program. Whether the retarded child is blind, hard of hearing, or cerebral palsied, can the center aid parent and child? Following careful study and diagnosis by the local clinic for mental retardation, there is a team approach to consider these more serious cases for admission. The final decision should be left to the educational agency. Once admitted, there is careful planning of program and of evaluation for the individual child, with parent understanding that prognosis is tentative."

Day classes, whether public or private, are only a part of the larger movement to study, experiment, and discover the kind of services and the type of agencies that will bring about optimum returns for children, parents, and community. There are many problems to answer, since lifelong planning will entail different kinds of services, of which childhood training is only one phase.

Questions and Suggestions for Study

1. Discuss the reasons why day school programs for the trainable developed so rapidly following 1950.
2. Summarize the facts from studies on follow-up of the trainable reported in this chapter.
3. What kind of provisions does your state make for the trainable child? Are they adequate?
4. Why do parents of the trainable need more assistance than parents of the educable? Select and read the references on parent problems and counseling listed below.
5. How did the Illinois and New York State study projects differ from the special-class program for the educable?
6. Discuss the need for long-range study of educational programs for the trainable.
7. Read the reference by Kirk and report on the complete program with various services that Kirk recommends.

Reading References

- BAUMGARTNER, BERNICE B. "Study Projects for Trainable Mentally Handicapped Children in Illinois," *American Journal of Mental Deficiency*, 60 (Jan., 1956), 488-91.

Discusses the organization of the study project under state sponsorship, findings of the first and second year's work, conclusions, and implications for future planning.

BENOIT, PAUL E. "The Play Problems of Retarded Children," *American Journal of Mental Deficiency*, 60 (July, 1955), 41-55.

Defines the play problem and outlines a solution with practical examples. The contribution of parents to the total situation of the retarded child's play is also discussed.

BUCK, PEARL. *The Child Who Never Grew*. New York: The John Day Co., 1950.

A parent's report on problems of planning for her retarded child.

CHAMBERLAIN, NAOMI, and HOOKER, OLIVIA J. *Learning Colors; Learning Forms and Sizes; A Speech Readiness Guide for Parents*. Rochester, N.Y.: Olney Books, 1956.

Practical aids for teaching trainable children are described for teacher and parent.

CIANCI, VINCENTZ. "Meeting the Need of Pre-Adolescent Retarded Children at Home," *Training School Bulletin*, 51 (Nov., 1954), 159-65.

Describes successful practices for children six to twelve years old carried on by the cooperative efforts of parents, home teachers, and community agencies.

CLEVERDON, DOROTHY, and ROSENZWEIG, LOUIS E. "A Work-Play Program for the Trainable Mental Deficient," *American Journal of Mental Deficiency*, 60 (July, 1955), 56-70.

Report of an experimental program under the direction of the Play Schools Program for retarded children in a parent-sponsored school. Includes a general discussion of the program, suggested curriculum and curriculum approaches, list of equipment, and the daily program.

Curriculum Materials for the Severely Mentally Retarded. San Francisco, Calif.: San Francisco Unified School District, 1956.

A compilation of materials developed by teachers of classes for the trainable; contains a complete listing of types of learning experiences, and for each type, materials needed and procedures to follow. Suggestions for a sample program, for reporting to parents, and for equipment complete the guide.

FRIED, ANTOINETTE. "Report of Four Years of Work at the Guidance Clinic for Retarded Children, Essex County, New Jersey," *American Journal of Mental Deficiency*, 60 (July, 1955), 83-89.

A study of 220 retarded children observed in a guidance clinic indicated the need for guidance of parents and professionals, training classes in public schools, home training and individual therapy, enlargement of institutional facilities, and coordination of local and central services.

GOLDBERG, I. IGNACY. "Some Aspects of the Current Status of Education and Training in the United States for Trainable Mentally Retarded Children," *Exceptional Children*, 23 (Dec., 1957), 146-54.

Presents data from a questionnaire regarding various aspects of current programs.

The Illinois Plan for Special Education of Exceptional Children: The Trainable Mentally Handicapped, 2d ed. (Circular Series "B," No. 12.) Springfield, Ill.: Superintendent of Public Instruction, 1955.

Outlines the state standards for the establishment of trainable classes by local school systems and the nature of the program.

IKEDA, HANNAH. "Adapting the Nursery School for the Mentally Retarded Child," *Exceptional Children*, 21 (Feb., 1955), 171-73, 196.

A teacher in a nursery school describes the characteristics of children, discusses learning disabilities, systematic instruction, individualization of instruction, special clinical teaching, and parent education.

JUSTISON, GERTRUDE G. "Parents in Programs for the Severely Retarded," *Exceptional Children*, 25 (Nov., 1958), 99, 100.

Effective programs for trainable children require home-school teamwork of a high order; this article describes how one school is trying to achieve this teamwork.

KIRK, SAMUEL A. *You and Your Retarded Child; A Manual for Parents of Retarded Children*. New York: The Macmillan Co., 1955.

A very complete presentation of the parents' problem and the slow development of the retarded child with detailed discussion of how the parent can aid self-help, play, speech and language, and acceptable behavior. The author furnishes a developmental scheme for evaluating the child's level of functioning in physical behavior, play, self-care, social response, and language.

MCCAW, W. RALPH. "A Curriculum for the Severely Mentally Retarded," *American Journal of Mental Deficiency*, 62 (Jan., 1958), 616-21.

Describes a curriculum developed for the severely retarded in Ontario, Canada. The characteristics of the learners and the program of learning activities are discussed.

Teach Me: A Guide for Parents and Others Who Have the Care of Subnormal Children. St. Paul, Minn.: Minnesota State Department of Welfare, Division of Institutions, 1945.

An early and much used guide; helps parents to understand the specific help the child needs.

Suggested Classroom Activities for Trainable Retarded Children. Toronto: Ontario Association for Retarded Children; Ryerson Press, 1953.

Gives specific suggestions on provisions and instruction, furniture, equipment, and supplies; organization and admissions, crafts, physical training; music, rhythms and dramatics, health and social living; and academic subjects.

POLLACK, MORRIS P., and MIRIAM. *New Hope for the Retarded*. Boston: Porter Sargent, 1956.

Reissue of a previous text (1953) with specific suggestions for teaching children with varying degrees of mental retardation.

PURCELL, RODERICK N. "Ohio's Program for Mentally Deficient Youth in Community Classes, February, 1953-June, 1954," *American Journal of Mental Deficiency*, 59 (Apr., 1955), 601-9.

Describes classes for children with I.Q.'s below 50 under the Public Welfare Administration. Discusses such administrative problems as rules and regulations, teachers, finance, and housing. Concludes with thirty tentative observations.

ROTHSTEIN, JEROME. "California's Program for the Severely Retarded Child," *Exceptional Children*, 19 (Feb., 1953) 171-73, 204.

The state of California has established classes for 300 of its approximately 5,000 retarded children. Discusses classes, criteria for eligibility, class size, and basis and rate of reimbursement.

SALVIN, SOPHIA TICHNOR. "Programs for Severely Mentally Retarded Pupils," *American Journal of Mental Deficiency*, 63 (Sept., 1958), 274-81.

A detailed description of the program of a day camp organized by a representative agency committee for severely retarded children.

STACEY, CHALMERS L., and DEMARTINO, MANFRED F. (eds.). *Counseling and Psycho Therapy with the Mentally Retarded: A Book of Readings*. Glencoe, Ill.: The Free Press, 1957, pp. 380-460.

Chapter 9, "Counseling with Parents." Selected readings on parents' feelings and attitudes, interpretation of mental retardation, problems to be met, the function of child guidance counseling, and practices and outcomes.

STONE, MARGUERITE M. "Parental Attitudes Toward Retardation," *American Journal of Mental Deficiency*, 53 (Oct., 1948), 363-72.

The study of forty-four case records indicates growth in the ability of some parents to face the real problem.

SCHNEIDER, BERNARD, and VALLON, JEROME. "The Results of a Speech Therapy Program for Mentally Retarded Children," *American Journal of Mental Deficiency*, 59 (Jan., 1955), 417-24.

Describes development in the language sequence of severely retarded children and the progress made during a year of speech therapy with eleven children.

STRAZZULA, MILLICENT. "Nursery School Training for Retarded Children," *American Journal of Mental Deficiency*, 61 (July, 1956), 141-51.

Describes an experimental program for retarded children of nursery school age, outlining organization and techniques used. Indicates the type of children who may profit from such a program.

Symposium: "Counseling the Mentally Retarded and Their Parents," *Journal of Clinical Psychology*, 9 (Apr., 1953), 1-26.

The subjects discussed are counseling parents and group guidance of parents of mentally retarded children.

The Mentally Retarded Child at Home. A Manual for Parents. (Children's Bureau Publication No. 374.) Washington, D.C.: U.S. Government Printing Office, 1958.

A popularly written manual of suggestions for home training and guidance of mentally retarded children.

WILLIAMS, HAROLD M. "Interagency Cooperation on Problems of the Trainable Child," *American Journal of Mental Deficiency*, 61 (Apr., 1957), 662-64.

A discussion of cooperative planning on behalf of the severely retarded.

Part II

The Educable Retarded Child and His Needs

3

The Educable Retarded Child

Educable mentally retarded children are the slow-learning children within the approximate range of 50 to 75 or 79 I.Q., who can achieve a degree of academic learning. Given an educational program which recognizes their potentialities for ultimate social and occupational adequacy, the large majority can grow up to be responsible, independent citizens.

The basis for any modern program of education is an understanding of the developmental characteristics and learning processes of the pupils whom it serves. Their development must be understood, too, in relation to the environment in which they are growing up, and to the demands that life is likely to make upon them as adults in our society. The educable group throughout *their school years need to be regarded as children growing up* with the basic needs and desires that are common to all children and adolescents in our culture. They are developing physically, mentally, socially, and emotionally, and like other children, are experiencing daily situations which build healthy or unhealthy personalities. Without a well-rounded knowledge of child growth and development, any teacher is limited in her function. Such knowledge is a chief requirement for the special education teacher.

In the longitudinal studies of child growth collected by the laboratory school and the University of Michigan, the unique

character of individual growth patterns was demonstrated.¹ Data concerning physical traits, social maturity, learning ability, and educational achievement plotted over a period of years and combined with medical, behavioral, and nurtural variations for the individual child confirmed certain generalizations. Growth tends to be unified, achievement is a function of total growth, and each individual has his own unique growth pattern. For the mentally retarded pupils, measurements of physical traits, social maturity, and adjustment tended to be nearer to chronological age expectation than did the measurement of mental age. These and findings in similar studies suggest that the organism as a whole responds to change and development, and that all aspects of growth are operative in the adjustment of the individual.

With a background of study in child growth and development the teacher takes a long-range view of the developmental process. She recognizes, for example, the significance of experiences during infancy and the early preschool years as laying the basis for later development. She considers the several aspects of physiological change, of social and emotional relationships, and of slow mental growth, and the interaction of these factors at the various periods in the child's development.

As an aid to a better understanding of growth patterns in the mentally retarded child, the following generalizations concerning physical, mental, and social development are briefly discussed.

Physical Development

In respect to physical development and physical traits the mentally retarded on the whole closely resemble groups of average children of corresponding chronological ages. Studies generally show that while medians in height and weight for groups of retarded children are slightly below those for average children, there is considerable overlapping. Table 1, showing the height and weight of a random selection of twenty retarded school children at each of four age groups (9, 11, 13, and 15

¹ "The Education of Exceptional Children," *Forty-Ninth Yearbook of the National Society for the Study of Education* (Chicago: University of Chicago Press, 1950), Part II, pp. 66-72.

years), indicates how like the average they are in measurements of height and weight. More physical defects are usually present in the retarded group.

Studies of motor proficiency and intelligence show a direct relationship. The degree of difficulty varies directly with the complexity of the task. In the Oseretsky tests of motor proficiency for general static coordination, dynamic manual coordination, general dynamic coordination, mechanical speed, simul-

TABLE I

HEIGHT AND WEIGHT OF TWENTY MENTALLY RETARDED CHILDREN SELECTED AT RANDOM FROM EACH OF FOUR AGE GROUPS—9, 11, 13, and 15 YEARS

Chrono-logical Age	Sex	I.Q.	Height (in inches)		Individual De- viation from Average	Weight (in pounds)		Individual Deviation from Average
			Average * at Age Level	Actual Height of Indi- vidual		Average * at Age Level	Actual Weight of Indi- vidual	
9-0	G	75	52	53	+1	63	74.75	+ 9.75
	G	72		52	0		58.25	- 4.75
	B	73		51.75	-.25		64	+ 1
	B	69		50.75	-1.25		53	-10
	G	74		49	-3		55.25	- 7.75
11-0	B	69	56	56.75	+ .75	75	82	+ 7
	B	73		56	0		81	+ 6
	G	74		55.5	-.5		67	- 8
	G	65		54.25	-1.75		70	- 5
	B	66		51.5	-4.5		68	- 7
13-0	B	74	60	62.5	+2.5	93	100	+ 7
	B	64		60.5	+ .5		96.5	+ 3.5
	B	71		60	0		95.5	+ 2.5
	B	73		59.5	-.5		91.5	- 1.5
	B	70		56	-4		93	0
15-0	G	67	63	65.5	+2.5	118	120	+ 2
	G	71		63.75	+ .75		129.25	+11.25
	G	64		60	-3		106	-12
	G	70		59	-4		101	-17
	G	57		58	-5		111.5	- 7.5

* Height and weight averages are taken from tables (after Olson).
 Harry J. Baker, *Introduction to Exceptional Children* (3d. ed.; New York: The Macmillan Co., 1959), pp. 507-8.

TABLE 2*

PERFORMANCE AGES FOR 285 PUPILS RANGING FROM
 CORNELL-COXE PERFORMANCE AGES FOR 285 PUPILS RANGING FROM
 STANFORD-BINET MENTAL AGES AND FROM 50 TO 79 IN I.Q. AS DETERMINED BY PERFORMANCE ON THE STANFORD-
 9 TO 15 YEARS IN CHRONOLOGICAL AGE AND FROM 50 TO 79 IN I.Q. AS DETERMINED BY PERFORMANCE ON THE STANFORD-
 BINET TEST

Chronological Age Range	I.Q. Level 50-59					I.Q. Level 60-69					I.Q. Level 70-79				
	Num- ber of Cases	C.A.	I.Q.	M.A.	P.A.	Num- ber of Cases	C.A.	I.Q.	M.A.	P.A.	Num- ber of Cases	C.A.	I.Q.	M.A.	P.A.
9-0 to 9-11....	5	9-3	56	5-3	6-2	10	9-5	65	6-2	7-2	21	9-7	74	7-2	8-10
10-0 to 10-11....	7	10-3	55	5-9	7-2	18	10-7	65	6-10	8-2	25	10-4	73	7-7	8-11
11-0 to 11-11....	9	11-5	55	6-4	7-2	30	11-4	65	7-5	8-8	22	11-6	75	8-8	9-6
12-0 to 12-11....	9	12-5	56	6-11	8-1	21	12-7	66	8-2	9-4	22	12-6	74	9-4	10-5
13-0 to 13-11....	12	13-5	55	7-5	7-9	24	13-5	65	8-7	9-8	11	13-7	74	10-2	10-9
14-0 to 14-11....	15	14-6	54	8-0	9-9	16	14-6	63	9-3	10-9	8	14-6	73	10-6	11-5

* Data taken from the Educational Research Division of the New York State Education Department, Albany, New York.

taneous movement, and synkinesia, the retarded are somewhat below the average.² Research in this area is needed. The areas of motor development and motor proficiency as they are related to intelligence and total adjustment need study.

Mental Development

The mental development of retarded children is consistently slow throughout their school life. Tables 2 and 3 give the results of examinations on the Stanford-Binet Scale and the

TABLE 3*

NUMBER OF MONTHS BY WHICH AVERAGE OF CORNELL-COXE PERFORMANCE AGES EXCEEDS AVERAGE OF STANFORD-BINET MENTAL AGES AT VARIOUS CHRONOLOGICAL AGES AND I.Q. LEVELS FOR 285 PUPILS

Age Level	I.Q. Level 50-59		I.Q. Level 60-69		I.Q. Level 70-79	
	Number of Cases	Months Difference between Results	Number of Cases	Months Difference between Results	Number of Cases	Months Difference between Results
9	5	11	10	12	21	20
10	7	17	18	16	25	12
11	9	10	30	14	22	10
12	9	14	21	14	22	12
13	12	4	24	13	11	7
14	15	21	16	16	8	11
Total	57		119		109	

* Data taken from the files of the Educational Research Division of the New York State Education Department, Albany, New York.

Cornell-Coxe Performance Ability Scale for 285 pupils who were studied with a view to possible placement in special classes. The results reflect the retardation of these pupils at the particular chronological age levels studied. The higher scores in the performance or nonverbal scale as contrasted with those in the

² William Sloan, "Motor Proficiency and Intelligence," *American Journal of Mental Deficiency*, 55 (Jan., 1951), 394-405.

Stanford-Binet Scale, which is verbal in nature, should be noted. Although the number of pupils tested was not large at any one level, test returns consistently showed, at all ages and I.Q. levels, better performance on the average in tasks calling for planfulness, motor coordination, motor control, and ability to deal with concrete rather than verbal problems.

An examination of case studies of these children showed that the large majority were classified as familial or "garden variety." These results reflect in general the findings reported in psychological studies of test patterns of familial and nonfamilial cases. The majority of those classified as familial have higher performance quotients.³

TABLE 4

MENTAL AGES GENERALLY TYPICAL OF MENTALLY RETARDED CHILDREN OF VARIOUS CHRONOLOGICAL AGES AND I.Q. LEVELS

Chronological Age in Years and Months	Mental Age in Years and Months		
	I.Q. 50	I.Q. 60	I.Q. 70
5-0	2-6	3-0	3-5
6-0	3-0	3-7	4-2
7-0	3-6	4-2	4-11
8-0	4-0	4-10	5-7
9-0	4-6	5-5	6-4
10-0	5-0	6-0	7-0
11-0	5-6	6-7	7-8
12-0	6-0	7-2	8-5
13-0	6-6	7-9	9-1
14-0	7-2	8-4	9-9
15-0	7-6	8-11	10-5

When the responses to verbal tasks on intelligence tests are compared for retarded and normal children of the same mental age, qualitative differences are evident. This difference is also noted in classroom performance. Concepts are not as highly developed; descriptive and expressive language is limited as compared with normal children of like mental age.

³ Seymour B. Sarason, *Psychological Problems in Mental Deficiency* (3d ed.; New York: Harper & Bros., 1953), pp. 122-31.

Table 4 indicates the slow growth in mental ability typical of the mentally retarded, and shows that within the group there are varying rates of growth according to intelligence quotient level. The typical retarded child of 70 I.Q., for example, reaches a mental development at eleven years that is not approximated by the child of 50 I.Q. until he is about fifteen years old.

Mental age and I.Q. suggest the limitations of the retarded child's abilities in association, comparison, comprehension, generalization, and symbolization compared with those of other children. For example, in school tasks calling for association, comprehension, and judgment—such as getting meaning from the printed page, adding new words to his vocabulary, and solving problems in number—the mentally retarded child who is chronologically twelve years old and mentally eight and a half years, with an I.Q. of 70, will respond more as the average eight-year-old child rather than as the average child of his own chronological age would. This principle generally holds true at all ages. Among the higher age groups long life experience and other favorable conditions may aid some individuals in succeeding better than their mental ages would suggest. Children with unusually favorable environments may also succeed better.

Social Development

The social development of the mentally retarded child is dependent on his mental and physical development. His physical size and physical abilities create a need and a desire for many of those experiences of the average child of the same chronological age and physical growth. But his slower mental development tends to limit his capacity to understand and to participate in the experiences of his chronological-age group. The retarded child has less ability to learn from experience, to take in all the elements in a complex situation, to foresee consequences, and to form judgments than has the average child; he is less capable of making adequate social adjustments for his age level. He is living, however, in a social environment that puts him in touch repeatedly with social experiences. Thus he may be helped to make many of the social adjustments of his age group as a result

of varied learning opportunities designed to orient him in common life situations. His physical development—size, endurance, and motor coordination—and his desire to be like others are aids in bringing about a social development that is as consistent with his physical development as possible.

A study was made by Anderson in which she used the Vineland Social Maturity Scale to rate and compare the social adjustment of special-class adolescents with junior high school adolescents.⁴ Although the special-class pupils were statistically below the junior high school pupils in intelligence, the majority were nearly equal to them in social competence.

In considering the education of the retarded, it is necessary to take into consideration these several aspects of growth and the degree of the maturity of the child at different chronological ages. The following descriptions (pages 48-55) present an overview of the child's development. The *generalizations* in the descriptive summary of characteristics at successive developmental periods from early childhood through adolescence were derived from teachers' and psychologists' recorded observations of 400 retarded pupils, 50 to 75 I.Q., over a period of three years. Twenty teachers of special education classes and six psychologists participated. The large majority of the pupils were enrolled in special education classes; a minority were in the grades. The study was designed to guide better understanding of slow growth, its developmental nature and pace, as an aid to curriculum building.

There is always need for *caution in generalizations*. Every retarded child is an individual and must be studied and provided for as such. *The group is in no sense homogeneous*. So many hereditary and environmental influences are operative that no two children of any age are alike, and individual variations and combinations of traits increase the further we go from the average. It may be noted here that individual variations are particularly significant in the retarded child whose condition is due to a brain injury, cerebral palsy, glandular imbalance, or other pathological state. Some of these children are

⁴ Meta Anderson, "Education for Social Maturity," *The Training School Bulletin*, 33 (Feb., 1937), 185-92.

termed multiple-handicapped because of accompanying deviations, such as convulsive, visual, auditory, and neuromotor, either singly or in combination. The majority of the educable group, however, do not have physical handicaps. Whatever the child's condition, the following descriptive generalizations of certain physical, social, and mental traits of the retarded at different age levels afford a developmental approach which is basic in growth patterns.

There are common traits that may be noted at different chronological-age levels and certain generalizations that can be made to serve as *both guides and challenges* to the further study and education of this group. These generalizations and descriptions of the common traits are presented for the following four age groups: five through seven years, eight through ten years, eleven through twelve years, and thirteen through sixteen years and older.

Descriptions of Individual Children

The description of traits and development in the previous tabulation is at best only a brief summary of generalizations for the respective ages. Many retarded children approximate this picture, but many, likewise, show marked deviations. The following descriptions of individual retarded children will illustrate more specifically the actual situations encountered.

An Eight-Year-Old. Sam, aged eight years, six months; mental age six years, one month; I.Q. 72; of American parentage.

Physically. He measures 45½ inches and weighs 55½ pounds. In height he is below the norm of the average eight-year-old, which is 50 inches, but he is stocky in build, robust, and very strong. His speech is plain and distinct. He skips, hops, and jumps with ease, and catches a ball at a distance of twenty feet. His eye-hand coordinations are improving. Three months ago, when he entered the special class, he did all hand-work carelessly and crudely. He is still awkward with crayons and scissors but now shows greater control and neatness. His greatest improvement has been in sawing.

PHYSICAL, SOCIAL, AND MENTAL TRAITS OF THE MENTALLY RETARDED

5, 6, and 7 Years

PHYSICAL TRAITS

Height and weight for the majority approximate typical standards for their respective ages—40 inches, 39 pounds, 44 for the five-year-old; 42.5 inches, 44 pounds, for the six-year-old; 45 inches, 49 pounds, for the seven-year-old.

Walking, running, and jumping are carried on readily by the majority, ability to skip is acquired slowly. Play with rolling and bouncing balls is enjoyed in. Throwing with an aim and catching a ball are enjoyed later for short periods under supervision. At five the child likes to carry things, pile blocks, and use rocking toys, carts, and wagons. At six and seven, he enjoys a scooter and a tricycle.

Control and coordination of the fine muscles and the wrists, hands, and fingers are slow to develop. Chalk, pencil, crayon, and brush are used with big strokes and scribble. Children like scissors, hammers, and saws for sheer manipulation. By seven years, the majority can color to line and cut with scissors to line.

SOCIAL TRAITS

The five-, six-, and seven-year-old child may still tend to play as an individual if opportunity for and specific guidance in play with others has not been given. As opportunity for supervised play with others is extended, he will share equipment and toys for longer periods of time, although his interests are still likely to be self-centered. He tends to be a follower in a group, with little, if any, initiative or imagination.

By seven and eight, his imitative play of family roles, the milkman, the postman, the fireman, and so on, is increasing. He tends to follow others in these roles.

He likes to feel that he is growing up. At six and seven, he enjoys helping with the dishes and putting things away. Many of these children are good helpers at this age and enjoy adult approval for their efforts. He may also like to go places with his father or mother.

He is fond of pets and likes his own

MENTAL TRAITS

Mental development approximates that of average children three to five years of age, but slower perception and association affects the quality and quantity of concepts and ideas. Children in this group generally are not curious or persistent in their questions about things and people in their environments. Their sense of time is developing, but they are still more interested in the "now" than in the future.

In picture description, the child is often content with naming one or two common objects; action is rarely noted before eight years. In completing the picture of a man, he may be satisfied with adding one or two details only.

Success in immediate rote memory for four digits or memory for a short sentence is rarely encountered before the age of seven years. Colors are not generally recognized before seven years and, in some instances, must be taught even after that age.

Counting and grouping objects to 4 or 5, a common task for the average

Hearing and sight are normal in the majority. His apparent disregard for environmental stimuli to which average children respond is due to slow perception and association.

He needs much encouragement and reminding from adults during these years. Although the five-year-old child may still need help in washing and dressing, by seven, he washes unsupervised. At this age, too, the majority can distinguish front from back, lace shoes, close up zippers, and button clothes without aid. Few will have learned to tie a bow without assistance.

The large majority develop normal speech but at a slower than average rate. For example, it takes longer for some to articulate *r*, *s*, *k*, *th*, or *f*. A few five-year-old children may still depend on words and phrases and not use sentences. In a small minority, speech may be markedly delayed because of brain injury or early deprivation of experiences.

possessions. He does not tend to talk spontaneously about home, his pets, and his excursions as readily as average children do.

He enjoys listening to records and stories and likes to hear favorite ones again and again. He learns to enjoy group situations for stories, finger plays, and demonstrated rhythms. He takes pleasure in singing and can beat time to even rhythms. Since he is slow to develop autocriticism, he looks for approval and is pleased with any comment of praise. The majority are sensitive to censure or adverse comments made about them or to them.

five- and six-year-old child, is rarely achieved by these children until the age of seven years or later.

Language and vocabulary are developing, but are still 25 to 50 per cent or more below the standards for average children. Objects are defined in terms of use related to the child's experiences rather than in descriptive terms or classification. He is usually successful in discriminating forms, such as squares, triangles, and circles, and begins to show interest in letter forms at seven years or later. By seven years, he does very simple puzzles on his own.

The majority have visual perception and an appreciation of spatial relationships which enable them to copy a circle and a square. As a rule, they are unable to copy the oblique angles of a diamond form.

8, 9, and 10 Years

SOCIAL TRAITS

Period of individualization is past and transition to social group has been made to the extent that the child has more or less learned to expect certain reactions from persons and things around him, and realizes that certain things are in turn expected of him. Cooperation in personal cleanliness, the use of expressions of courtesy, and the exercise of some self-control in satisfying wants are developed. Attempts to win approval of adults and satisfaction of desires dominate conduct.

The majority want to have a place in the family group and enjoy sharing in the housework and the care of younger children. They are likely to be quarrelsome with siblings of comparable ages.

Suggestion and imitation dominate in conduct and play. Running games with "choice" element such as tag; singing games like "The Farmer in the Dell," "The Mulberry Bush"; seasonal games like marbles, jackstones, and spinning tops; and ball playing, are enjoyed. The ego is too dominant to allow for being a "good sport" in play. Making believe play must involve elements that have become very familiar through actual experience or pictures, such as

PHYSICAL TRAITS

Height and weight for the majority approximate normal standards for their respective ages—50 inches, 58 pounds, for the eight-year-old; 52 inches, 64 pounds, for the nine-year-old; 54 inches, 70 pounds, for the ten-year-old.

Muscular control of limbs is well developed. Walking, skipping, running, and jumping are done with ease, except in occasional cases of especially inferior coordination. Muscular control of hands tested in baseball throw and catch at distance, bean-bag toss for accuracy, and standing broad jump are slightly inferior to the norm for children of average ability.

Muscular control of fine muscles of hands and arms is fairly well developed. Chalk, pencil, crayon, and brush are used with neatness and considerable precision. Paper cutting, hammering, and sawing are carried on, but construction in woodwork is likely to be crude.

Senses are well developed. Variation from the normal results from a lessened capacity for discriminating and interpreting sensations. Failure to carry out directions is due to lack of comprehension rather than to lack of auditory acuity.

MENTAL TRAITS

Mental development approximates that of average children five to seven years of age. Situations such as playing games, making toys, and listening to stories are of interest to the more retarded. Gradually, from the mental age of six years on, activities like reading and writing, calling for periods of voluntary attention, will be undertaken. Rote memory is good at all three age levels, but memory of images and logical memory are poor. Concepts of time are weak. The names of the days of the week and the date can be named because they are read daily. The idea of months is very vague. Hours on the clock are associated with daily routine by a majority of nine- and ten-year-olds—"9 o'clock, school begins," "12 o'clock, lunch time," etc.

At eight years weakness of power of association, fundamental to language development, is noticeable. Differences and similarities between two common objects, like a baseball and an orange or an airplane and a kite, are not readily noted. The power to call up ideational representation of objects may be weak or there may be an inability to recognize any associations between the two. At ten years more

ability to associate is evident, but development continues to be consistently slow.

Mere activity and manipulation may continue to satisfy at these ages, but there is greater stimulation to think and to talk about pursuits. Expression in play or conversation is less than that of the average child. Estimated vocabulary is 25 to 35 per cent below the eight-year-old standard. Objects are generally defined in terms of use, as "a stove is to cook with," "a ball is to play with." Little description or classification of objects is in evidence. There is a lack of awareness of qualities and characteristics that are of interest to average eight-year-olds.

Picture description is largely a naming of objects or of action. Spontaneous drawings show few relationships and a lack of detail.

Little ability for self-criticism is evident at eight years. Any response tends to satisfy until some basis for and help in judging effort are provided.

New things in the environment are more readily observed without direction.

Lack of adaptation in a new situation seems due to failure to recognize similarities and to make associations.

playing school, house, policeman, aviator, Indian, and the like.

Stories to be successfully dramatized must be familiar. Satisfaction is obtained from much repetition of stories, plays, and games. Rhythm, music, folk dances, and mimetics set to music are enjoyed, as well as picture books, fairy stories, animal stories, and descriptions of child life. The distinction between true and imaginative stories is appreciated. Independence of appreciation of humorous situations is generally lacking; an explanation is necessary even for the "funnies."

Play interests of group of twelve ten-year-olds in order of preference were tag games, hide-and-seek, ball games, playing catch, checkers, lotto, playing house, playing school, playing with dolls, playing with pet kitten, picture puzzles, jumping rope, spinning tops, flying kites, marbles, and table games such as spinning for turn and matching cards.

Speech defects such as stammering, lisping, and infantile speech are found in about 15 to 18 per cent of the children⁷ as compared with 5 or 6 per cent of regular grade groups.

⁷ Based on average per cents found in Rochester special classes over a period of two years. Includes incapable children placed for observation.

11 and 12 Years

PHYSICAL TRAITS

Height and weight for the majority approximate normal standards for the respective ages—56 inches, 77 pounds, 85 for the eleven-year-old; 58 inches, 85 pounds, for the twelve-year-old. Tendency to acceleration in height is similar to that of average children, with girls slightly in excess of boys. Increase in bone growth is noticeable in legs and arms, making a change in relation of sitting to standing height that is also similar to the development in average children. A few of the taller girls may begin to show at the twelfth year awkwardness of movements and the beginnings of adolescent development.

General motor control is good, except in extreme cases of mental defect or physical disability. Eye and hand coordination tends to increase—manual

SOCIAL TRAITS

Children of similar mental ability and of the same sex are preferred as companions. Individual interests and personal concern dominate activity, although sensitivity to group approval as well as to adult approval is developing, with obedience a fairly well-formed habit. The fact that others must be considered is recognized in more and more situations.

Power to sacrifice immediate for remote ends is increasing. There is greater responsibility for personal care, for simple home duties, for materials and property. Sense of individual and cooperative ownership is growing.

Growing interest is shown in constructing and in using things—doll clothes, doll furniture, autos, trucks, boats, and airplanes being greatly enjoyed. Care of and responsibility for

MENTAL TRAITS

Range of mental development approximates that of average children seven to nine years of age. Ability to counteract distraction and to give voluntary attention to a task is increasing. Greater effort is used to overcome difficulties. Rote memory is good but memory of images and logical memory continue to be poor. The concept of time is developing. By twelve years the majority can tell time and they know the meaning of minutes and hours. Some ideas of the passing of time in months and years have been acquired, but the idea of actual months and associations with seasons may still be vague.

Ability to recognize differences and similarities in common objects and to associate ideas is increasing. Ability to use language continues to develop

skills are carried out with less inaccuracy and bungling. Greater attention to and interest in ways of doing things and the finished product are shown. Creditable results can be obtained from manipulation of tools and material.

Speech defects tend to persist longer than in average children, particularly with the boys, despite remedial instruction.

younger children are especially pleasing to the girls.

Play is usually with others in some form of game. Many of the play materials noted at earlier years continue. Element of competition is especially strong in boys—"starring" in contests, running the fastest, jumping the farthest, winning the most marbles, and so forth. Games of chance, such as card games and table games, guessing games, games of memory, and ball games of all kinds are enjoyed. Interest in make-believe play drops off. Enjoyment of the dramatization of a familiar story continues, as well as enjoyment of familiar plays repeated over and over. Variety is not self-initiated but has to be developed through an outside stimulus.

Fairy stories and stories of animals and of child life are still enjoyed. Boys begin to ask for adventure stories. "Funnies" are enjoyed and are more intelligently appreciated than at an earlier age.

Radio and television are popular.

slowly. Developing concepts and ideas result in increase of meaning in activities undertaken. There is more concern about what is being done and why. Expression in play and conversation is increasing. Objects are thought of in terms of definition and classification; a soldier is a "man who goes to war," for example. Vocabulary is growing.

Pictures are responded to in terms of description of objects and action without interpretation of meaning. Drawings show more detail and better understanding of surroundings.

New things in the environment are more readily observed without direction. There is still limitation of the ability to judge success, but instruction and guidance have improved self-criticism with regard to many tasks suitable to the ability level.

13, 14, 15, 16 Years, and Older

SOCIAL TRAITS

The company of the opposite sex is sought earlier by girls than by boys, with average boys of the same age or older dull boys as the selected companions.

Due to identification with elders, jobs and housekeeping assume social and personal significance, girls being interested in preparing foods and making their homes attractive, boys wanting to make worth-while things, to work cooperatively, and to feel through the use of tools and machinery that their jobs are real. Remunerative jobs attract, the girls helping with home duties and service jobs, and the boys doing odd jobs—running paper routes, delivering for the grocer, and so on, with increased dependability. After-school employment is frequent.

With increased sensitivity to situations in the environment—the home, financial status, clothes, foreign background—limitations are more keenly felt. There is also a strong urge toward independence with some resentment at being told repeatedly what to do and what is expected.

Active play interests, such as skating, hiking, swimming, baseball, foot-

PHYSICAL TRAITS

Height and weight for the majority approximate the normal standards of 60 inches and 97 pounds for the thirteen-year-old; 62 inches, 109 pounds, for the fourteen-year-old; and 63 inches, 116 pounds, for the fifteen-year-old. Marked physical development for the majority of both sexes takes place as in other adolescents. Between the latter half of the thirteenth year and the fifteenth year the majority of girls have their first menstruation. Most of the boys reach pubescence between the early months of the fourteenth year and the middle of the fifteenth year.

Many individual variations occur as in average children. Taller boys and girls reach periods of rapid growth and subsequent periods of slower growth at earlier ages than shorter boys and girls. Slow growth before the teens is often followed by proportionately rapid growth during adolescence. Proportionate weight of muscles to total body weight rapidly increases. At fifteen years the total musculature approximates 32.6 per cent of the entire body weight; at sixteen years it approximates 44.2 per cent. Breathing capacity and physical

MENTAL TRAITS

Mental development approximates that of average children eight to ten or eleven years of age. The power of voluntary attention and concentration on a given task has increased. Rote memory is good, memory of images and logical memory are improving.

Powers of comparison, generalization, and abstraction are weak or lacking. The differences from the average child are most marked in respect to these abilities. Concrete illustrations of the meaning of such words as charity, courage, or envy may be given if taught, but definitions of abstract words cannot be formulated.

Simple interpretations of situations in pictures may be made, but lack of creative imagination is striking. Responses may even be the description of action alone.

Language expression is still far below expectation for the average child. Descriptive and abstract terms are generally lacking. The use of adverbs is not common. The majority have probably not acquired more than 7,000 to 9,000 words, contrasting with about 15,000 or more for average children of the same age.

strength and endurance generally increase as in the normal. Work can be carried on for longer periods. Voice changes occur during these ages.

Motor ability and eye-hand coordination improve with a resulting increase in kind and number of hand skills and in ability for sustained effort and interest to do work well.

Speech defects occur among about 4.5 per cent, compared with 15 to 18 per cent at earlier years.

ball, basketball, card games (such as poker, rummy, and canasta), and checkers predominate in the boys and also to a lesser extent in the girls. Relays and team games are also popular with boys. Folk dances, social dancing, and other rhythmic exercises appeal to both.

Less interest is shown in group organizations, clubs, and leagues than by other children because of inferior ability to fulfill requirements. "Gangs," or group chumming, develop among the boys.

Stories of fact, history, invention, adventure, and sport, magazine articles describing how to make things, including material in science magazines, are enjoyed by the boys. To the girls the greatest appeal is made by stories of familiar experiences of girls of their own age, stories of home life, fairy stories with an element of romance, fiction of love and romance, the cheap newsstand variety of fiction and magazine, the "funnies," and the picture news sheet. Motion pictures and radio and television programs that deal with romance or adventure, and quiz programs are popular.

Learning ability in practical situations is increasing. More adequate adaptations are made in new situations.

A growing awareness of life and of the world of activity leads to more ready observation of details of the environment and of ways in which they are related to it.

Greater general interest and a tendency toward participation are noticeable in the majority.

Socially. Sam comes from a below-average home and is the fourth in a family of eight children. The mother says he is a good boy at home. He washes the dishes and takes care of the babies. He plays with boys of his age and likes to play ball and marbles. He has not yet learned to play well with other children in school, wants his own way, is quarrelsome and moody, and does not obey readily. Often he does not want to enter into group activities. He wants constant praise for all his efforts. He likes to hear stories and listens attentively, but he never offers to tell any stories himself.

Mentally and Educationally. At eight years and six months he has the learning ability of a first-grade child. He fails in tests of associative memory and rote memory for years six and seven. He defines objects in terms of use and cannot give any difference between a baseball and an orange or between an airplane and a kite. In describing pictures he notes objects and actions. He cannot print his name without following a copy, and he recognizes no more than ten word forms. He counts to twenty and writes figures to ten.

An Eleven-Year-Old. Anthony, aged eleven years, one month; mental age seven years, four months; I.Q. 67; of American parentage.

Physically. He is a healthy, well-developed lad with no physical defects. He is up to height for his age and slightly overweight, being 54 inches high and weighing 78 pounds. He is dark-skinned and dark-haired, with rather small, sharp eyes. His muscular coordination is well developed. He does as well as the average eleven-year-old in gym activities, such as running, skipping, jumping, and catching and throwing a ball. He exceeds his classmates of nine, ten, and eleven sufficiently well to attend gym with the eleven- and twelve-year-old special-class boys.

He has made things of wood that are substantial and strong enough for play—a kite, a wheelbarrow, and a truck. He can saw and hammer with ease and is for the most part interested in doing his work well.

Socially. Anthony comes from a fairly comfortable home.

He enjoys his home and is obedient to his parents, but feels no obligation to cooperate with his sister, who looks after him during his mother's absence at work.

He usually plays outside with younger boys and likes situations where he can be first. In school, he often gets into trouble because he will use dishonest means to win. In class, he is courteous, uses "please," "thank you," "excuse me," and so forth, and allows the girls to go first. He is obedient but not always considerate of others if his own pleasure is interfered with.

He has many play interests. He enjoys ball, competitive team games, and seasonal games such as marbles, jacks, and kite flying. He likes to excel in running, jumping, throwing, and other physical activities. During the winter he talked a great deal about his coasting and skiing experiences. He likes being out of doors and has an uncle who often takes him to one of the city parks for play and sports. He likes music, songs, rhythms, and marching.

He enjoys listening to stories, likes books, and goes to the story hour at a nearby library. At the present time *Pinocchio*, *Peter Pan*, and *The Runaway Sardine* are his favorite stories. It may be noted in passing that physically and socially he is in advance of his mental and educational development.

Mentally and Educationally. Anthony has a mental age of seven years and four months; that is, at eleven he has the learning ability of the average second-grade child. In language he associates ideas slowly. He can give the difference between two kinds of things like wood and glass, but he cannot see the similarity between wood and coal, or an apple and a peach. His vocabulary does not measure up to an eight-year standard. In describing objects, however, he classifies and describes readily. He is slow in reading for his mental capacity and experience and is still acquiring a first-grade reading vocabulary. He writes nicely and spells well enough to write very simple original sentences. He can add with carrying and subtract without borrowing. He makes change from fifteen cents, knows inch, foot, yard, pint, and quart, and works simple problems. His concepts of time are developing. He can name the days of the week, and

knows the month and day but not the year. He can read the clock at the hour or after the hour to thirty minutes. He drew a clock face for the psychologist and showed the time as "five minutes after eight."

He is well orientated as to locations in the school and in the neighborhood. He follows directions readily as to placement of materials and so forth.

When Anthony's learning ability and accomplishments are contrasted with the fifth- or sixth-grade accomplishment of the average eleven-year-old, his retardation is obvious.

A Fifteen-Year-Old. Harry, aged fifteen years, three months; mental age ten years, four months; I.Q. 68; of American parentage.

Physically. He is a thin, dark-complexioned boy with a kindly expression. His height is 59¼ inches and he weighs 85 pounds, in contrast to the average height of 63 inches and weight of 116 pounds for the normal boy of his age. He reached pubescence about six months ago.

He shows some signs of nervousness, but there are no physical defects. He speaks clearly and distinctly. His motor coordination is good. In handwork he does a neat, painstaking job, has made small pieces of furniture, and at present is succeeding well with machine work in the shoe repair shop.

Socially. The neighborhood in which he lives is slightly below average. The home is comfortable and clean with fluctuating economic conditions, due to the father's irregular employment as a laborer and the mother's part-time employment as a practical nurse. One brother is working and two younger sisters are making normal progress in school.

Harry is happy at home and is treated kindly by his family. He is an affectionate type of boy and shows his feelings easily. He likes to have his own way and is likely to be quarrelsome with his schoolmates if he does not get it.

He enjoys almost any kind of sport at school, especially football, baseball, dodge ball, and soccer. He has only one boy companion with whom he walks to and from school. He spends his time outside school with the other members of his family. He is required to be at home at five o'clock, and goes to bed at eight.

He sometimes enjoys a game of rummy or canasta with the family. He reads a great deal, listens to the radio, watches television, and has a regular Saturday trip to the movies. His interests in all these activities center around mystery, adventure, fighting, and airplanes. He does not care for music. He has several Boy Scout books. He recently read *Uncle Tom's Cabin* and enjoyed it. In school he reads *Boy's Life* magazine, *Popular Mechanics*, and books on geography. He is particularly interested in the modes of living in tropical countries.

Harry has no duties outside school, and his family does not encourage him to take any on. He says that as soon as he is old enough he wants to join the navy and go to sea, but that his father wants him to become a steam-shovel operator.

Mentally and Educationally. At fifteen years of age he has the learning ability of the average fifth-grade child. Harry succeeds in tests of rote memory and visual imagery at a ten-year level. He lacks ability in powers of comparison, generalization, and abstraction. He cannot state a similarity between three things like wool, cotton, and leather, or book, teacher, and newspaper. He is unable to generalize from the fables of "Hercules and the Wagon" and "The Milk Maid and the Eggs." He indicates that he has some idea of the meaning of such abstract terms as pity, courage, and charity, but he cannot give a definition of them.

In describing pictures, he gives the interpretation of the setting and actions, and he notes detail to a marked degree. On the Stanford-Binet Vocabulary Test, his score is below that for the average twelve-year-old. His concepts of time are well developed as to time of the year, span of time, the past, the future, and the like.

At fifteen years of age Harry has a reading vocabulary and comprehension in reading equal to about that of the fifth-grade child. In number work he knows and uses all the fundamental processes, simple fractions, and the common measures. He writes a fair letter. He has a larger background of general information than many retarded boys, and has an air of wanting to find out about things.

Questions and Suggestions for Study

1. State in your own words your understanding of the meaning of the following terms: mental age, educational age, social age, physiological age.
2. Which age has the traditional school of the past considered the most important? Why?
3. Ask six to ten eight-year-olds to draw a picture for you. Then ask each one what his picture tells and record the description on the back. What do these pictures tell you about the development of concepts in eight-year-olds?
4. Follow the same plan with a group of twelve-year-olds. What do you infer about the development of concepts at twelve years of age compared with that at eight years?
5. Outline the physical, mental, and social characteristics of the average six-year-old. Make a similar outline for the eight-, nine-, and ten-year-old group of retarded children. Compare this latter group with the six-year-old group.
6. Note the play interests for the group of eleven- to twelve-year-olds listed on pages 52 and 53 of this book. Compare these interests with those of a group of average twelve-year-olds.
7. Describe as to size, school grade, school ratings, play interests, and companions two children you know who are of the same chronological age. How do you account for their likenesses and differences?
8. Report from your own experience instances of pupils who made good adjustment during adolescence, and instances of others who made poor adjustments. What conditions in the preadolescent environment of these pupils made for subsequent good or poor adjustments?
9. Make a plan that would help you as a new teacher to become familiar with the stages of social development of your individual pupils. Consider the making and recording of careful observations for this purpose.
10. Choose an average child whom you know who is of approximately the same age as one of the children described in this chapter. Compare the development of the two physically, socially, educationally, and mentally.

to adulthood. The emphasis is on achievement and industry in the elementary-school years.

- DOLL, EDGAR A., and MCKAY, B. ELIZABETH. "The Social Competence of Special Class Children," *Journal of Educational Research*, 31 (Oct., 1937), 90-106.

Reports the use of the Vineland Social Maturity Scale to compare two groups of educable children, one in day school classes, the other in an institution.

- HAVIGHURST, ROBERT J. *Developmental Tasks and Education* (2d ed.). New York: Longmans, Green & Co., Inc., 1952.

A discussion of all aspects of growth from infancy to youth with a statement of the developmental tasks that are significant for those who plan curricula.

- HEGGE, THORLIEF G. "Psychological Aspects of Mental Retardation," *American Journal of Mental Deficiency*, 57 (Oct., 1952), 189-204.

A very thorough presentation of concept, definition, study, and diagnosis in the psychological appraisal of the retarded, 50-75 I.Q.

- HUTT, MAX L., and GIBBY, ROBERT GWYN. *The Mentally Retarded Child*. Boston: Allyn and Bacon, Inc., 1958, pp. 155-86.

Discusses problems of adjustment in the retarded from infancy through adolescence.

- STRAUSS, ALFRED A., and LEHTINEN, LAURA E. *Psychopathology and Education of the Brain-Injured Child*, Vol. I. New York: Grune & Stratton, Inc., 1950, pp. 1-126.

A basic reference with definition of the brain-injured child and a presentation of his learning problems and behavior characteristics.

- WALLIN, J. E. WALLACE. *Children with Mental and Physical Handicaps*. New York: Prentice-Hall, Inc., 1949, pp. 10-198.

Defines and describes in detail classifications and concepts medical, psychological, and educational, in the area of mental retardation.

4

Guiding Principles and Facts

If a suitable program of education is to be provided for the mentally retarded, it is evident that there must be certain guiding principles based on the psychology of this group. The descriptions in Chapter 3 of the child's development at different chronological-age levels provide the key to these principles, which are briefly summarized herewith.

Psychological Principles

Physical Development. In respect to physical development, the mentally retarded come very near to the average group. Their accomplishments in all physical activities approach closely the accomplishments of the usual child. Provision, therefore, for the development of a healthy physique and healthful living habits, including satisfactory outlets for physical energy, comprises an important place in their education.

Motor Ability. The mentally retarded child approaches nearer to the average child in sensory acuity and motor ability than in more definitely intellectual processes. The majority approximate success at their chronological-age level most nearly in processes which call for eye-hand coordination and for motor response. The majority enjoy the manipulation of materials and the actual operations in the construction of any product, and can generally be taught to be proficient in hand skills. Practical arts

and the "doing" experiences should, therefore, play a major part in their education.

Mental Ability. Mental ability is perhaps the most significant factor today in success and in adjustment to school life for the majority of children. The mental ability of the slow-learning child at any age is characterized by a slower rate of and a less full total of development than that of the average child, and particularly by limitations in abilities having to do with abstract thinking and symbols such as are involved in association, reasoning, and generalization. Varying I.Q. levels within the group also indicate varying degrees and rates of learning ability. Each child has his own pattern of growth. Accomplishments along the way and ultimate goals for the individual are dependent on rate of mental growth and potential capacity. The kind and number of learning situations provided, therefore, must be suited to the child's level and rate of learning ability so that he may achieve with reasonable success. When the mentally retarded are expected to accomplish work beyond their mental level, failure and discouragement result. As the teacher keeps this principle in mind, giving ample opportunity for potential development, she will not exert undue pressure in trying to accomplish what may be beyond the child's present or ultimate ability.

Social Development. The mentally retarded child is inevitably having, as he grows older, many of the experiences of average children of his own age. With adolescent maturity, for example, comes the development of strong emotional tendencies, interest in vocations, in the home, in friendships, in the other sex, and a strong desire to be like others. As a result of physical development and maturity, there is a maturity of social interests, a fact which has a very important bearing on his education. It means that throughout the school life of the child learning situations must be suited to his physiological and social development as well as to his mental level. The child of thirteen or fourteen years with a mental capacity of eight or nine years will not be interested in reading matter suited to the normal eight- or nine-year-old. Although his comprehension and his mastery of technique may be the same, his interests have carried him beyond the

stage of repetitive folk tales and fanciful stories of animal characters and child life. The stories and illustrations of the third- and fourth-reader level, although suited in difficulty to his ability in many instances, are not suited to his physical development or his social experience. They appear childish to him. Reading situations—in fact, any learning situations—must be grown up and dignified in their appeal and appropriate to his physiological and social maturity, although they must not call for intellectual processes beyond his ability. This principle must be applied all through the school life of the mentally retarded child.

The Learning Process. Principles governing the learning process in the usual child apply to the slow learner. Conceived in its broadest aspect, learning may be thought of as a dynamic process whereby the continuous interaction between the organism and environment produces growth and development of the total personality. Learning may be thought of as a continuous process of adjustment on the part of the individual to his environment. It takes place in the same way in all individuals, regardless of differing rates of learning ability. Learning, explained simply, means that the individual is finding and establishing new or better ways of responding or behaving in any situation. The young child may be learning how to use a spoon, how to stand alone, or how to hold a book. The child of school age may be learning how to write words new to him, how to write a letter, how to pitch a ball, how to bake a cake, how to estimate mileage between two points on a road map, or how to read lumber items on a stock bill. In any of these situations there are present the individual and his need as a learner and the environmental setup which provides the means for learning. As learning takes place, there is constant interaction between the two. It is recognized that, in many instances, the learning may be incidental to, or may take place without, the individual's having consciously defined his need, as is illustrated by the young child's attempts to make such elemental adjustments as feeding, babbling, creeping, standing, walking. But as the individual grows older, adults at home and at school are constantly aiding him in situations where his need is consciously formulated, thus giving conscious direction to the course that his learning takes.

Elements of Need, Success, and Recurrence. For the present purpose, the learning process for the child of school age may be stated in the following terms: The individual first realizes a *need* for adjustment to the elements present in his environment; i.e.; there is a condition of awareness in the learner which is a vital part of the learning process. This need directs or guides him as he makes his responses. Second, as the individual progresses, *consciousness of success*, or *recognition of the right response*, makes him more definitely and understandingly aware of his goal, stimulating and guiding his progress toward it. Third, there must be sufficient *recurrence* of situations for the learner to become so thoroughly at ease in his new form of behavior that it becomes a part of him.

An illustration of this development of learning may be helpful. John, aged eight, wants to address an envelope for a letter he has written requesting a stamp catalogue. The need is evident. The classroom environment, with teacher and children ready to assist and with materials at hand, provides the means for carrying out his purpose. The suggestions and approval that come in discussing the right form, in trying out the address on the board and then on paper before he finally addresses the envelope, all serve to help John realize more fully what it means to address an envelope—to achieve satisfactory spacing, spelling, and legibility. He is aided in choosing the right responses by the approval and satisfaction that come from his efforts. Facility and ease in this form of behavior—addressing envelopes—will come with sufficient recurrence of the situation. Better writing that will function in other situations, greater ease in meeting a new situation, and other skills and habits may also be expected to accrue.

The three elements of need or purpose, recurrence, and success are essential in effective learning for the retarded as well as for the average. The slow child, like every individual, has needs and purposes and is striving to satisfy them. When he is placed in an environmental setting that provides the stimulus and the means to accomplish these purposes, continuous learning and development take place.

Meaningful Recurrence. Children generally acquire incidentally much information and many habits that must be taught

specifically to this group. The retarded child's limited ability to apply in one situation experiences learned in another, to anticipate consequences, and to criticize his own conduct, indicates that he must learn through concrete experiences. Numerous specific instances for applying an idea or principle must be provided in directing him toward generalization. Desirable concepts, habits, and attitudes must be developed carefully. The school environment, therefore, should be more carefully controlled and planned and more frequent opportunities provided for meaningful recurrence than in the education of the usual child. But too much emphasis has commonly been placed on the element of recurrence, and the element of child purpose too often overlooked.

Success and Approval. The element of *success* is of great importance in the education of the slow-learning child. Children, in general, are social in nature. They respond to the presence of others; they are interested in the behavior of other persons; they tend to share their activities and to desire approval. All these impulses have too often been frustrated in the case of the slow-learning child, who, because of his inability to compete with average children and to meet expected standards both in and out of school, has likely found few opportunities for sharing his experience and winning approval. He has, consequently, an even greater need than the average child for specially planned opportunities in his school life for achieving some socially recognized success.

The element of approval also has importance for the slow-learning child. Since he is less alert to his needs he requires more positive encouragement to work toward definite goals than does the usual child, who more readily recognizes desirable goals and their purposes. Expressions of approval will give him this encouragement.

Finally, learning takes place both in and out of school for all children. The slower the child, as already stated, the less he learns incidentally on his own and the more teaching and direction he needs. Systematic step-by-step individualized and group instruction is necessary for him. He learns to perceive and to

acquire the symbols of communication both oral and written through many directed experiences with the concrete. He needs specific instruction in transfer of training, i.e., to recognize common elements and relate learnings to new situations. He learns to generalize from many concrete specific experiences where the same concepts and skills are needed again and again. He needs recognition for his achievements and thereby he develops a feeling of success as do all children.

The special class should accordingly provide an atmosphere where the child can participate in living with others, where self-adequacy can be developed as well as habits and ideals of taking part in cooperative problems, and of winning and giving approval. Opportunity must also be provided for the recognition of individual effort and accomplishment without unfair comparisons with standards beyond the child's power of attainment.

Individual Differences. The differences between the mentally retarded group as a whole and the average group have been discussed. Attention has also been called to differences in the rate of learning ability within the group and to unevenness of abilities of individuals. Consideration must also be given to the fact that every child is an individual problem whose progress is conditioned by his physical condition, innate mental endowment, attitudes, and environment. Although possessing the same characteristics of development, children differ in respect to capacity for learning and in respect to the opportunities afforded by their individual home and school environments, including the influence of others' attitudes of approval or blame. Some may have the advantage of good physique and normal physical development, while others may be physically immature or hindered by physical defects.

The children classified as familial without physical handicap will be more stable and consistent in their slow progress toward achievement and independence. The child with accompanying visual, auditory, or motor handicap may need adapted materials and methods. The brain-injured child whose deviation lies in the areas of perception and thinking will need special adaptation in methods. The child who is functioning at a low level due to

emotional blocking may need the help of a therapist. Individual differences are many, and individualization of treatment and instruction, a necessary correlate.

Philosophical and Educational Principles

In any plan of education, the individual should be thought of as a personality in a social setting. The purpose should be his complete, harmonious growth and development. Nothing short of this is a satisfactory educational aim for the mentally retarded child, although he may be limited in his learning ability. The ways in which the life of the mentally retarded child are most like that of the average child should be realized and emphasized by the teacher who would achieve this purpose.

If the similarities in the child life of the average and the mentally retarded are recognized, it will be noted that the philosophical and educational principles underlying the education of the mentally retarded are those underlying the education of any child.

The principles must place emphasis on the child as a growing individual, on the potentiality and rate of his mental development, on his physical and social level of maturity, on the nature of his learning processes, and on the conditions of his environment. Pupil classification, classroom environment, teaching objectives, choice of curriculum material and method, and the arrangement of programs must all be planned with these basic principles and facts as premises.

Adaptation to the Individual. Perhaps the foremost basic principle in education today is that consideration must be given to the needs of the child as an individual. John Dewey has said, "The child is the starting point, the center, the end. . . . It is he and not the subject matter which determines the quality and quantity of learning." The teacher must be a student of the individual children in her group. She should have an intimate understanding of the background, the interests, the abilities, and the attitudes of each child. She should be able to interpret their influences on his present behavior and on his needs as a learner. As she discovers the stage of his development with respect to

his abilities, interests, and attitudes, she should plan and carry out a developmental program instead of utilizing a prescribed plan of procedure and subject matter for her pupils. In other words, the situation is planned to meet the needs of the child; the child is not fitted into a planned situation.

Use of Freedom. Children should have the opportunity to develop naturally and freely. The classroom should have an informal, friendly atmosphere, with the furnishings, materials, and program arranged so that there is opportunity for movement and freedom of expression on the part of the children. They should participate freely in all that takes place. In an informal atmosphere even the slow child, who naturally lacks initiative, will develop the ability to question, to make suggestions, to confer with others, to find the material he needs for a particular piece of work, and to try things out. As he is given freedom in his work, however, the child must learn to consider others and to realize that his own impulses and behavior must not interfere with their rights but must conform to certain rules and regulations in order that the work of all may be carried out harmoniously and successfully. A sense of individual freedom, subject to the good of the group, will then develop a feeling of responsibility as the child learns to meet problems independently and to choose conduct that is socially helpful. If freedom in the classroom is to accomplish these purposes, it must be controlled by a guiding purpose and frequently call for sustained application and effort to carry out a piece of work and to master a situation. Within this atmosphere of freedom the slow-learning child, too, must be given careful teacher guidance in the choice and development of his undertakings, for he is not so adept in utilizing former experiences, in foreseeing consequences, and in persevering in the face of difficulties as is the average child.

Development of Interests and Needs. The interests and needs of every individual are to a large extent derived from and influenced by his immediate environment. This fact is particularly true of the mentally retarded, whose suggestibility is great and who lack that capacity for generalization and abstract thinking that often suggests to normal children interests and needs for self-improvement that are relatively independent of the

immediate surroundings. It is therefore of very special importance that the environment of the slow-learning child should supply interests in and challenges to accomplishment. Sometimes the homes of these children are below average and consequently provide insufficient challenge and stimulus. The home environment of a child may be so barren that it fails to provide even those simple experiences which are essential to the basic adjustments of social life. If adequate facilities for preparing and serving food are lacking and if there are few books and playthings, the child is generally deprived of many opportunities to learn through such elemental experiences.

In the case of any mentally retarded child who suffers from deprivation of learning experiences, the school has a special responsibility to provide an adequate and stimulating environment. Opportunities must be plentiful for those experiences basic to personal and social development and stimulating and challenging to accomplishment that are not provided by the home. These experiences should be so enjoyable to the child that his life in school will be emotionally satisfying, and they should be so planned that they will carry over into his out-of-school life. In this way he is helped to meet better the conditions of life about him, his interests are increased, and his realization of his needs and of possible ways of meeting them is more clearly defined.

Activity and Actuality in Experiences. Children are by nature active. Child life is full of activity, impulse, and movement. The basis of all learning or behavior is reaction—mental, physical, social, or emotional—and the school should accordingly provide learning situations in which the child is stimulated to react in all these ways. Too much of school time in the past has been devoted to mental reaction and to passivity—listening, reading, and thinking. Under such a program the mentally retarded child makes very little progress. He must have opportunity and encouragement to make physical, emotional, and social responses, as well as mental ones.

Learning, it is more and more being realized, occurs largely through concrete experiences that are a part of real life—going on excursions, for instance, or observing and handling such actualities as plants, animals, or specimens of any kind that can be

brought into the classroom. Experience for the slow-learning child must also be kept on a concrete "doing" level through the use of materials, tools, apparatus, and machines. For him these facts are of special importance, since learning which depends only on narrated, described, and recorded experiences will always be more or less meaningless to him.

Units of Work. Curriculum practices reflect the conviction that when the subject matter of education is centered and integrated in such real and vital enterprises as usually comprise "units of work," rather than developed through subject-matter organization, learning increases in effectiveness. The slow-learning child, since he transfers and applies his learning to new situations less readily than do other children, will profit to an even greater degree than the average child by having the learnings he is to acquire presented in units that suggest the situations of his life outside the school. Health problems, school, home, family, and community problems, recreational pursuits, industrial arts, home economics, and occupational activities become centers around which learning units for him may well be unified. In these settings the child meets real or firsthand problems: out of such experiences grows the need for investigation, for study, for construction, and for mastery of social and practical skills. The more nearly the learning situation approximates a real-life one, the more effective will the learning be. The content of the curriculum, therefore, should be organized in units that comprise meaningful wholes in terms of the demands life will make on the slow learner.

Mastery of Tool Subjects. The majority of mentally retarded school children can master enough of the tool subjects for practical use in their lives, but this mastery comes very slowly, requiring a much longer period of time than in the case of the average child.

The problems and experiences of the units of work should create a practical need for the use of the tool subjects—spoken and written English, reading for information and pleasure, computation, legibility in handwriting—but definite practice closely related to that need must recur persistently in order to insure mastery of these tools.

Need of Independence. Satisfactory adjustment in life calls for self-confidence, self-reliance, and independence on the part of the individual. The mentally retarded, because of their inability to compete successfully with other children, tend to lack these essential qualities. It becomes, therefore, the responsibility of the school to provide experiences that will aid this group to become self-confident, self-reliant, independent workers at tasks commensurate with their learning abilities. The mentally retarded child should therefore be encouraged to develop the best that is in him and to realize that he has a worthy contribution to make to his group in the home, the school, and the community. Through group cooperation he should be stimulated to realize the importance of this potential contribution and to exert his best efforts toward it. However small his contribution may be, he should be helped to realize its value and the possibility of his making it successfully. There should be no spirit of rivalry or competition with other children, as such comparison is likely only to emphasize failure for him; there should be for the slow-learning child only competition with his own record, thereby encouraging him to his best possible efforts.

Participation with Others. The majority of the slow-learning after completion of their schooling have some contact with the industrial and social life of the average group. During their school life it is therefore desirable for them to take part as much as possible in the regular life of the school, the home, and the community. They should feel that they belong, that they are a part of the school. For this end, they should be given the opportunity of taking part in assemblies, clubs, athletic meets, and any other activities of the school group in which they are capable of participating. They may also be helped specifically to realize and assume their share in home responsibilities.

Cooperation in the Home. The child's education is, of course, not entirely gained at school. It takes place also in his home and in the larger community in which he lives. Unified efforts in the development of right habits, skills, attitudes, and appreciations on the part of both home and school are desirable. The teacher should, therefore, be thoroughly familiar with the home environment. The understanding teacher can accomplish

a great deal by way of improving attitudes and cooperation in the home, where it seems desirable that these be improved or brought into closer harmony with those of the school.

Questions and Suggestions for Study

1. Make a two-statement summary of each psychological principle summarized in this chapter and its resulting educational implication.
2. Make a two-statement summary of each philosophical and pedagogical principle and its resulting educational implication.
3. Choose five of these principles that you consider most significant from the standpoint of method.
4. Choose the five principles that you consider most significant for the choice of curriculum material.
5. What conditions make it sometimes difficult to find reading material suited to the mentally retarded child?
6. Name as many similarities as you can between the life and nature of the average and those of the mentally retarded child.
7. Choose two learning situations that might take place in a fourth grade and describe the learning process for each.
8. Suggest desirable ways of giving approval to the mentally retarded child.

Reading References

Children With Special Needs. Baltimore, Md.: State Department of Education, 1958, pp. 11-19.

States trends and basic premises to guide the educational programs for the mentally retarded in the state of Maryland.

CRONBACH, LEE J. *Educational Psychology.* New York: Harcourt, Brace & Co., 1954, pp. 245-412.

Discusses the psychology of learning in the acquisition of concepts, attitudes, and skills.

FEATHERSTONE, WILLIAM B. "Realistic Education of the Mentally Retarded," *Teachers College Record*, 52 (May, 1951), 471-80.

Indicates some of the misconceptions prevalent in the teaching of the mentally retarded and points out certain essential aspects of instruction in this field.

GARRISON, IVAN K. "The Development of Social Skills and Attitudes," *American Journal of Mental Deficiency*, 56 (Oct., 1951), 338-43.

A progress report on changes in adjustive behavior of pupils when the curriculum is definitely directed toward building social skills and attitudes.

GARRISON, KARL C., and FORCE, DEWEY G., JR., *The Psychology of Exceptional Children* (3d ed.). New York: The Ronald Press Co., 1959, pp. 53-109.

Discusses the characteristics of the retarded and their educational implications.

WALLIN, J. E. WALLACE. *Education of Mentally Handicapped Children*. New York: Harper & Bros., 1955, pp. 183-206.

Discusses special-class efficiency and basic principles underlying teaching procedures.

5

Implications from Studies of Community Adjustments

The educational opportunities for the educable retarded are increasing. There is a growing trend to extend the upper age of school attendance for this group. For many years few, if any, of the mentally retarded continued in school beyond the compulsory age limit. Hence, school programs placed emphasis on preparing these pupils in so far as it was possible for them to become self-respecting and self-supporting wage earners by fifteen or sixteen years of age. With the extension of state legislative provisions for the education of all types of handicapped children, there is the recognition of the educational rights and potentialities of this particular group. More and more school systems are planning developmental, sequential programs with terminal goals and including these programs as part of secondary-school offerings. Such programs with social and occupational objectives are enabling parents and pupils to realize the values to be derived from school attendance beyond the usual compulsory age limit of seventeen or eighteen years.

To what goals should the school and the home aspire in utilizing the lengthened school program? What are the potentialities of the slow-learning for adjustment of life demands? For what will they be ready when their school program is over and they enter the period of employment and wage-earning? Since 1920,

educators, school psychologists, and social workers intimately associated with programs for the mentally retarded have sought information concerning the life adjustment needs of this group and the values of educational and social programs designed for them. A number of studies have been published. A selected few that are representative of those made over the years are reported in this chapter.

Studies of special-class pupils following their withdrawal from school throw light on the extent to which they find employment, the types of jobs they are able to fill, their earning ability, the factors affecting steadiness of employment, and their social adjustments. The investigations also indicate the degree to which the home and school have prepared them to make satisfactory adjustments. With such findings it is easier to determine the needs that must be met through improved educational and social programs.

The conclusions should be accepted with the recognition that the bases for selection of these pupils and the diagnoses of mental retardation are not comparable from study to study. The intelligence quotient, in some instances, may have been the main criterion for diagnosis, without full regard given to other factors related to growth and functioning. However, the studies reported here were made in communities where the school systems, over a period of years, have employed psychologists (not mere psychometricians) to study and diagnose pupils for special-class placement. Recognizing some limitations in diagnosis, the majority of the pupils studied were mentally retarded or borderline children who attended schools that had offered them a special program to fit their needs.

Early Studies

A significant study of former special-class pupils was reported by the Children's Bureau of the United States Department of Labor.¹ An investigation of about a thousand pupils who had

¹ Alice Channing, *Employment of Mentally Deficient Boys and Girls* (Children's Bureau Publications No. 210 [Washington, D.C.: Superintendent of Documents, 1932]), p. 66

left special classes over a period of four years to go to work was conducted in Rochester, Detroit, Newark, Oakland, San Francisco, and Los Angeles.

The report gives the following information: The great majority of the individuals studied had gone into work of unskilled or semiskilled types—more than half into the manufacturing and mechanical industries. The next largest number of jobs for boys were classifiable as transportation—work as teamsters, truck drivers, and taxi drivers. Next to factory work, the girls were engaged chiefly in personal and domestic service. Many also were salesgirls in stores. The average beginning wages for both boys and girls were between twelve and fourteen dollars a week, and the cash wages of the last jobs held averaged between sixteen and twenty dollars—an average and acceptable wage at that time for youth. The employers rated about 78 per cent of the work performed by the boys and about 80 per cent of that performed by the girls as satisfactory.

Investigations of the number of individuals who had been under probation to juvenile or adult courts and those who had served sentences in penal institutions showed that 14 per cent of the group had court records. In the Rochester group, 50 out of 101 girls had married by twenty years of age, as had 7 of 105 boys.

The following conclusions are stated in the report:

The study as a whole would seem to indicate that there is place for subnormal boys and girls in industry. Even those who showed little mental ability could perform certain types of work satisfactorily. Of these subnormal young people those in the lower grade had held their last jobs longer than those of higher mental level; this probably indicates that they were more willing to settle down at tasks that were monotonous and irksome to those of higher intelligence. The percentages of promotions for the different intelligence groups and wage increases in last over first jobs show that ability to progress increased with a higher intelligence quotient. The fact that so many young persons of less than average mentality were able to earn a livelihood is doubtless due in part to the training given them while in special classes, in good habit formation, and in a right attitude toward work.

The cases of H. and D. are examples illustrating that personality characteristics, health, and home conditions are important

factors in work success. These are cases typical of those that were successful and unsuccessful among the Rochester group.

Case 1. H.; male; age, twenty-three; marital condition, single; I.Q. 70 (Stanford-Binet); physical condition, good; personality make-up, no outstanding personality difficulties; behavior difficulties and misconduct, none. Has one deaf brother who is employed. The family has had contact with two social agencies, dealing with health. The home rating is 19, above average; the neighborhood rating is 17, average.

H. left school at sixteen. He has had three jobs, two of which have been in sheet metal work. His present position, which he has held for three years, is that of a cutter in a shoe factory. He is earning thirty-six dollars a week. His employer's report is: "Energetic, dependable worker. Is sociable and well-liked in the factory."

Case 2. D.; male; age, nineteen; I.Q. 65 (Stanford-Binet); D. shows very definite personality difficulties and character defects. He is in poor physical condition—thin, nervous, and restless—and smokes incessantly. He is known to frequent pool halls and taverns. His family has had contact with three social agencies (one dependency, two delinquency). The father is alcoholic, a brother is unemployed, the mother is mentally retarded, and the father and the mother are divorced. The home rating is 12, very inferior; the neighborhood rating is 15, inferior.

D. began work when fifteen years old. In the first year he had twelve jobs. He gives the following reasons for leaving positions: "Didn't pay enough." "Mother didn't want me to work there." "Fired because sick one day." "Work slack." "Had a quarrel with the boss, so I quit." "Didn't like it." "The work was too heavy." His present employer reports: "Getting careless, irregular in reporting. Will be discharged at the end of the month unless he improves. His work is very easy and requires no intelligence."

Massachusetts Survey. The results of a survey authorized by the Massachusetts State Legislature to determine the need for social supervision of former special-class children under twenty-one years of age also indicate favorable adjustment.²

The following information was secured for 230 mentally retarded boys and girls who had formerly attended special classes:

² Summarized from Arthur B. Lord, "A Survey of Four Hundred Forty-Nine Special-Class Pupils," *Journal of Educational Research*, 27, No. 2 (Oct., 1933), 103-14.

SOCIAL ADJUSTMENT

	Per Cent
No delinquent record	82
Delinquent record	18
Time spent profitably—regular hours, no street loitering, moderate attendance at movies, no "gang" associations, etc.	80
Time spent unprofitably	20
Homes effective in adjustment	76
Homes not effective in adjustment	24

VOCATIONAL ADJUSTMENT

In industry outside of home	
Adequate	37
Adequate but opportunity for work lacking	23
Inadequate	4
In home	
Satisfactory	13
Satisfactory but opportunity for work lacking	10
No earning capacity	6
Adjustment not reported	7

The report concludes that out of the above group, 8.3 per cent are institutional problems of the type that should not have been retained in the public school, 42.2 per cent need no supervision, others would profit by educational and vocational guidance or general supervision, and 13.9 per cent need family supervision.

A recommendation is made that visiting teachers should be assigned to give social, educational, and vocational guidance to special-class pupils preparing to leave school and that supervision after the individual leaves school should be continued until he is twenty-one.

Abel and Kinder Study. Abel and Kinder conducted studies over a three-year period on the adjustment in home and community of eighty-four subnormal girls coming from Trade Extension Classes in New York City.⁸ In this project, a social worker and counselor guided the girls. Although borderline and dull-normal girls were included, sufficient data are available on the individuals with lower I.Q. ratings of 50 to 69 to indicate

⁸ Theodora M. Abel and Elaine E. Kinder, *The Subnormal Adolescent Girl* (New York: Columbia University Press, 1942), pp. 75-102.

that the problems as well as the factors which made for success at both lower and higher levels were similar. During the first year, the girls generally held their jobs for only short periods—a few weeks or a month. During the third year, the successful work periods were longer. The improved adjustment was attributed in part to the protection and follow-up afforded by the social worker and counselor.

The girls who succeeded came from homes where they were accepted and not rejected. They had such social and emotional traits as self-esteem, patience, a willingness to accept some things they didn't like, and a strong work drive or ambition. They had the benefit of employer attitudes of understanding, acceptance, and encouragement during the initial stages.

Later Studies

McKeon Study. McKeon studied 207 former special-class boys in an industrial city in New England to discover their military and employment status.⁴ These boys, with an I.Q. range of 50 to 83 and a median I.Q. of 76.7, had attended special classes for an average period of 4.75 years and had been out of school from one to ten years.

The following items are reported:

	Number	Per Cent
Assigned to the armed forces	117	56
Deferred and employed in defense work	17	8.2
Employed otherwise than in defense work	58	28
Unemployed	15	7.8
Totals	207	100

Out of the 73 boys not serving with the armed forces or deferred, 39, or about 19 per cent, were rejected, 16, or about 8 per cent, were awaiting draft, and 18, or about 9 per cent, were ineligible because of age. Most of the boys had found work in unskilled or semiskilled jobs. As to delinquencies, fewer than 25 per cent had appeared in court at any time to answer a charge.

⁴ Rebecca M. McKeon, "Mentally Retarded Boys in War Time," *Mental Hygiene*, 30 (Jan., 1946), 47-55.

Kennedy Study. Kennedy designed a study "to discover in what particulars and degrees morons deviate from the characteristics and behavior of persons of presumably normal intelligence."⁸ Her study is based on a comparison of 256 morons with 129 nonmorons matched on the bases of age, race, sex, nationality, and father's occupation. An analysis of the marital, social, educational, employment, and economic status of each group revealed certain differences, but also close similarities. In life situations, the participation and adjustment of the morons compared favorably with those of the nonmorons. Among other items, the morons were found to be occupationally adequate in that they were economically independent and self-supporting.

Phelps Study. As an aid in formulating curriculum and establishing secondary-school classes in Ohio, a study was designed to determine how well young people who had attended state-approved classes for the mentally retarded were adjusting after leaving school.⁹ Information was sought on any significant relationships between what was known of their educational progress and ability and the quality of their adjustment after leaving school. The total number of cases studied was 163, of whom 105 were males and 58 were females.

An instrument with three parts was designed to gather pertinent data. Part I called for information from school records such as attendance, reason for leaving school, intelligence and achievement test data, and the special teacher's rating of subject on school-leaving. Part II called for information gained in an interview with the subject himself. Part III was a schedule for interviewing the subject's employer concerning wages, exact nature of work, and adjustment to the job.

The median I.Q. was 60.6 taken from the school record, and the median age at the time of the study was 21.7 years. The group had a median of 3.4 years in special-class attendance.

The vast majority of the 87 subjects whose employers were interviewed were employed in semiskilled, unskilled, and service

⁸ Ruby Jo Reeves Kennedy, *The Social Adjustment of Morons in a Connecticut City* (Hartford, Conn.: Social Service Department, 1948), pp. 90-98.

⁹ Harold Phelps, "Post-school Adjustment of Mentally Retarded Children in Selected Ohio Cities," *Exceptional Children*, 23 (Nov., 1956), 58-62.

In order to better understand the potentialities and characteristics of the retarded which have particular significance for optimum employment, there is a need for research to fill in certain gaps. Research is recommended in the areas of motor proficiency and in certain aspects of temperament, such as persistence, emotional stability, level of aspiration, and susceptibility to monotony, as they are related to occupational training and employability. Such research would enable schools to make the best use of lengthened educational programs extending to the high-school years, and would provide the basis for scientific evaluation of the methods employed in those programs.

In the meantime, the data indicate certain needs common to the mentally retarded which must be met by any plan of education. The maintenance of good health in the individual, improvement of his environment, and continued development of adequate personality traits, it becomes apparent, would increase the individual's capacity to find a job and to continue at work steadily. The degree of the individual's success in industry is shown to depend to a large extent on (1) his ability to find a job suited to his capacity, (2) the degree to which he has developed traits of self-esteem and self-reliance, punctuality, courtesy, industry, obedience, cooperation, steadiness, and perseverance, (3) the degree to which the home and community environments foster the development and retention of such traits, (4) acceptance, tolerance, and understanding on the part of the employer, (5) the development and maintenance of a healthy physique, and, (6) in some cases, the fitness of the nature and tempo of the job to the temperament of the individual. Illustrations of this last condition are that some individuals like outdoor work and others like the noise of machinery, that some can turn out piecework, while others less agile cannot work happily or efficiently under a piecework system. Provisions for all these factors would improve occupational efficiency and, at the same time, serve to increase the individual's capacity for acceptable behavior in the home and the community and so reduce the possibility of frustration and delinquency.

Fully five or six hours of each day, besides his weekends, are left to the individual after his work is over. It is accordingly

important that he should be educated for the use of his free time as well as for a job. The responsibilities of the school, the home, and the community in all these matters must be met if the *mentally retarded* are to achieve satisfaction in their own lives and become acceptable or contributing members of society.

The selected studies in this chapter emphasize the need for, and point the way to, improved developmental programs in which mental health, social competencies, occupational training, teacher-counselor-employer relationships, work-tryouts, and placement supervision will have a greater place. Programs embodying these aspects are discussed in Chapters 18 and 19.

Questions and Suggestions for Study

1. Why are the *results of studies of former special-class pupils* of significance to education?
2. Make a topical summary of the findings of the first two studies reported in this chapter.
3. List the factors that contribute to the satisfactory adjustment of the special-class group in industry. Which do you consider the most important and why?
4. How should these factors affect curriculum-building for the *mentally retarded*?
5. Discuss the ways in which satisfactory adjustment in industry increases capacity for acceptable behavior in home and community.
6. Is it possible to identify early and to provide supervision for those who will not adjust satisfactorily in afterschool life? Discuss your answer.
7. How would you answer the question, "What is the use of spending money on the *mentally retarded*, since they will never make good citizens?"

Reading References

- BURR, EMILY. "Prime Factors in the Placement of the Below Normal," *American Journal of Mental Deficiency*, 51 (Jan., 1947), 429-34.
An analysis of factors in employment of the *mentally retarded* by a vocational psychologist who pioneered in this field over a period of time.
- COLLMANN, R. D., and NEWLYN, D. "Employment Success of Educationally Sub-Normal Ex-Pupils in England," *American Journal of Mental Deficiency*, 60 (Apr., 1956), 733-43.

A report of the follow-up of 225 English pupils from residential and day schools for the subnormal. Reveals findings similar to American studies. Factors of temperament, character, home conditions, and physical defects are treated.

MULLEN, FRANCES A. "Mentally Retarded Youth Find Jobs," *Personnel and Guidance Journal*, 31 (Oct., 1952), 20-25.

Describes a program of the Chicago Public Schools for follow-up of special-class students in order to determine employability of the mentally retarded. Presents types of employment and ways of vitalizing the school program to better serve the retarded. Statistical information from the survey is included, with two case histories illustrating successful employment.

MURRAY, EVELYN. "The Vocational Potential of the Retarded," *Vocational Guidance Quarterly*, 4 (Spring, 1956), 87-89.

Employment data from three cities indicate that retardates are able to find and keep jobs.

SARASON, SEYMOUR B. *Psychological Problems in Mental Deficiency* (rev. ed.). New York: Harper & Bros., 1959, pp. 107-14.

Discusses follow-up studies of the retarded in terms of variabilities in successes and failures. Scientific studies oriented both culturally and psychologically are needed.

TIZARD, J., and O'CONNOR, N. "The Employability of High Grade Mental Defectives," Parts 1, 2, *American Journal of Mental Deficiency*, 54 (Apr., 1950), 563-76; 55 (July, 1950), 144-57.

An English study reporting a penetrating analysis of the factors that affect employment and containing recommendations for research.

6

Objectives for Educational Programs

Clearly defined objectives are essential as guides to building educational programs in any school system. Not only principals and teachers but school board and superintendent should have knowledge of objectives or goals in the school program. Furthermore, they should be concerned that the specific objectives and outcomes to be fulfilled by the special education program are in harmony with the goals stated for all children. In general, these objectives should grow out of the ideal aim of all education—the development of the individual's capacity to enjoy, to share in, and to contribute to the worthwhile activities of life. For although limited in their capacities, most retarded children have the potential capacity to share to some degree in carrying on the normal activities of life. The majority of them can, as the previous chapter indicated, acquire social habits and attitudes, skill of hand, and working habits that will make for satisfactory adjustment in the home, in the community, and in the working world. Their limited capacities will, however, suggest adaptations of both educational goal and method. It is accordingly helpful to define specifically those goals that may be considered of peculiar importance for the retarded group.

General Educational Objectives

Before considering such specific objectives for this selected group, however, the general trends in educational objectives for all children will be reviewed briefly.

The modern school conceives its purpose in relation to the growth and development of total child personality adjusting itself to a social environment. As a step toward accomplishment of this purpose, leaders in American education have stated and restated objectives for the elementary and secondary school in functional terms.

The following statement is taken from a presentation of objectives issued by the Elementary Division of the New York State Department of Education.

1. A love of America, a deep appreciation of its heritage, a growing sense of responsibility for insuring the values of a *democratic society*
2. Wholesome relationships in school, at home and throughout all society
3. Physical, mental and emotional health
4. Clear thinking—careful, constructive and critical
5. A growing command of common knowledges and skills
6. Development of individual aptitudes, abilities and interests
7. Moral and spiritual values as the basis of human conduct ¹

The Educational Policies Commission has stated *four groups* of objectives for American education which are widely accepted: (1) self-realization or personal development, embodying the individual's use of the tools of learning, his health, his cultural and recreational interests and his personal philosophy, (2) an understanding of human relationships as a member of a family and of a community, (3) economic efficiency as a producer and consumer, and (4) civic responsibility in local, state, and national government, and concern for the peoples of other nations. Each area is related to the others and, together, they encompass life activities as a whole.

The more recent life adjustment programs for the secondary school realistically take account of the life needs of the youth as he grows toward adulthood. Basing its work on the four groups of objectives stated by the Educational Policies Commission, a national conference formulated the following goal areas for the

¹ *Objectives For Elementary Education: The 3 R's and Much More* (Albany, N.Y.: New York State Education Department, 1955), p. 7.

50 per cent of high-school youth who are "dropouts":² (1) ethical and moral living, (2) citizenship education, (3) home and family life, (4) self-realization and worthwhile use of leisure, (5) health and safety, (6) consumer education, (7) tools of learning, and (8) work experience, occupational adjustment, and competencies.

Educators who are primarily students of child growth and development place emphasis on the concept of the child as a "thinking-doing-feeling person" growing up in a democratic society. They state one of the main responsibilities or goals of the school as that of helping to provide for the developmental needs for affection, group relationships, adjustment to a changing body, bodily control, independence, developing morality, and understanding the psycho-socio-biological sex role, as children grow from early childhood to late adolescence. The focus is on mental health and the emotional aspects of life adjustment.

These brief statements of objectives indicate that the school today takes account of life in its entirety. It is seeking to identify itself with more and more of life's activities, to recognize mental health, and to consider all possibilities for the fullest development of the individual in a democratic society.

Objectives for the Education of the Retarded

Objectives for the retarded may be said to differ from those for all children only to the extent that they are narrowed down to prepare the individual to fulfill specific adjustments in a limited occupational and social sphere. In other words, the mentally retarded person cannot achieve so many and so varied adjustments, he cannot contribute to or participate in life so fully, he cannot live at so high a level as the normal; but according to his measure, he can achieve the adjustments within his reach, he can contribute his share to the accomplishment of the tasks of life, and he can enjoy life at his own level of interest and accomplishment. He cannot be expected to understand the

² U.S. Office of Education, Divisions of Secondary Education and Vocational Education, *Life Adjustment Education for Every Youth* (Washington, D.C.: Federal Security Agency, 1943).

complexities of the social order, or to contribute to the solution of its problems. He will only be a follower. In so far as he is a well-adjusted, self-respecting, cooperative member of the home and community, contributing as much as he is able toward his self-support, he is doing his share. The objectives for this group, therefore, will not cover the whole scope of those set up for all children, but they will take into account the conditions specific to this group, as described in previous chapters. These it may be well to review here.

1. These children, like others in school, are growing up and developing physically, mentally, socially, and emotionally. Average expectation may be more nearly attained in physical, social, and emotional development than in mental development. They have basic needs and desires like other children.
2. Social skills and hand skills are the sphere of greatest likely success for many.
3. Home environments for many provide inadequate opportunities for experience.
4. These children have individual needs that vary because of differences causing their retardation and because of developmental experiences.
5. These children require at every age level more specific guidance and teaching than other children in order to achieve mastery of tasks within their potentiality.
6. Adjustments must ultimately be made chiefly in the rank of semiskilled and unskilled occupations.

The first aim of all education should be to help the child react efficiently as a growing child to situations both in and out of school and to establish habits and attitudes that will continue to operate as life goes on. If such an aim is to be realized for the slow-learning child, it is particularly important that the application of all his learnings to simple life situations be made clear and that all practice tend to foster functional learnings. For this reason, objectives for education of the retarded are stated here in terms of those life activities in which the slow-learning group are most likely to participate. They are grouped under the general headings of health, tool subjects, group and community life,

family life, leisure, and occupations. In every instance there is recognition of the persistent life situations that these children meet from day to day and from year to year.

Health. Health is the first consideration for every child. It is of special consequence to the retarded child if he is to develop to his fullest capacity. His assets being limited, the handicap of being physically under par in any respect is far more serious for him than for the average child. Some of these children will come from the below-average home where poor hygienic conditions are likely to exist and where parents do not have the intelligence to understand the significance of good health habits or the need for correcting physical defects. Even in the average or better home with adequate health provisions, there may be too little or too much expected of the child in health practices.

The slow-learning child, because of his inherent inability to see relationships, also understands less readily than do other children the relationship between the practice of habits and the consequences of practicing them. All through his habit-forming years the teacher must therefore direct him specifically in practicing health habits so that he may come finally to relate practice with consequence and experience the feeling of comfort that correct habits give. Knowledge and information about health do not suffice for the normal child, much less for the slow learner. Desirable habits of action must be inculcated through persistent practice.

Health habits and attitudes that are of first importance are those that will develop and conserve a healthy physique. The slow-learning child should learn to practice personal habits of cleanliness, of good posture, and of healthful dress—habits that experience has shown are also directly related to the development of self-respect. The child should be taught to care for his eyes, ears, and throat; to appreciate the value of well-ventilated and well-lighted rooms, of exercise in the open, and of regularity in exercise and rest; to choose and prepare healthful foods; to observe safety rules; and to apply the simple elements of first aid.

Habits and attitudes of hygienic living that will aid in the maintenance and promotion of the health of others are also nec-

essary. The child should be guided to consider the effect of his health habits on the health and comfort of those around him as well as their effect on himself. He should learn about communicable diseases and how to use community health facilities and how to administer some of the steps in first aid.

The individual must also have a healthy personality. He must develop, in so far as possible, wholesome mental attitudes, emotional stability, and normal social reactions. He must learn to accept easily the simple demands of life, to be interested in other people and in what is happening around him, to make an effort to accomplish tasks within his ability, to develop self-confidence, to be even-tempered, to be happy and cheerful, to be companionable, and to be considerate of others.

Knowledge of the Tool Subjects. The mentally retarded child should be given, in so far as his ability will allow, a practical working knowledge of the tool subjects, that is, the fundamentals of reading, numbers, and English, including writing and spelling. Because of his limited ability to associate ideas and experiences, he has to be specifically taught to apply these tools in even the most simple situations. The mentally retarded, much more than the average child, must be taught to apply all the things he learns to the specific situations in life in which they function. To know how to read, how to compute, how to spell, and how to write will not suffice. The slow child must be given specific help in interpreting what he reads. He must be definitely taught how to read signs and directions; how to find information in newspapers, in bulletins, in a directory, or in a magazine; how to read letters; and how to read stories for pleasure. He must be specifically taught how to use numbers in the situations in which he is most likely to need to use them—finding a certain page in his book, for example, or counting change at the grocery store, finding his gain in weight over the previous month, estimating the cost of a party, organizing teams for games and computing scores, reading a temperature graph, estimating the value of his time on a job. One hundred per cent perfection in the daily spelling lessons does not represent satisfactory achievement unless he can use the learning he has acquired to list a grocery order, fill out a form, write a letter, or keep a diary.

Group and Community Life. The slow-learning individual should also be given, in so far as his ability will allow, an understanding of group and community relationships and of his part in them. This goal is concerned with group living and the development of social concepts and orientation. The mentally retarded must be very carefully directed to an understanding of how people live together and of how activities are carried out in a community. Because his powers of association, abstraction, and generalization are limited, he does not readily sense even the most common elements in group life. He does not understand the meaning or significance of democratic government as an institution. He, however, can build up concepts of community living, beginning with the understanding of life and relationships in his family group and his school group. Through first-hand experience he too may learn how many people live together in a neighborhood and in a city, how the neighborhood and the city are made safe and kept clean. He may learn about the many opportunities offered for worthwhile activities by the school, the church, the library, the museum, the parks, and other public institutions. He can learn to appreciate that the city must have men to manage it, to make its laws, and to see that they are carried out. He may be brought to realize that he shares with others a certain responsibility for keeping the community safe, clean, and comfortable. He may learn of the many kinds of occupations in which men and women engage in his own community. He may be helped to realize the duties, value, and dignity attached to low-skilled jobs as well as to those of higher levels. Through the concrete situations that he observes and experiences, he may learn to sense a community as a group of people living and working together cooperatively.

If possible, he should be enabled, also, to transfer this conception of the community from his own to other nearby and far-away communities. Through study of his own needs for food, shelter, and clothing, the child may be helped to acquire the idea of interdependence of individuals within the group, and of different groups to one another.

Family Life. The individual should be helped to become a worthy member of his family, contributing his share toward

making the home a wholesome, satisfying center for his own life and for the lives of the other members of the group.

The mentally retarded child, particularly, needs to develop concepts, skills, and attitudes that will aid him in becoming a better member of his home group. In the social setting of home, classroom, and school, he learns to live, play, and work with others. Through relationships with adults and with peers, he comes to recognize adult roles and his relationship to them. He builds up a "concept of self" and learns to respond in ways that are acceptable to others. *He has often been made to feel out of place in the home because of his recognized inferiority to the rest of the group.* But as he comes to feel pride and pleasure in cooperating in classroom tasks, he may gain a notion of the opportunity for useful effort in the home that will increase his self-respect and encourage better attitudes of members of the family group toward him. Through appreciation of the duties and the responsibilities of the different members of the classroom group, he may be taught to understand the sharing of responsibilities in the family group. In school he may learn, and then be encouraged to do well in the simple home tasks like caring for his own clothes, caring for his own room, taking care of younger brothers and sisters, keeping the yard clean, washing the dishes, *or preparing the vegetables.*

The girls at adolescence may acquire skills in the practices of homemaking and home improving, attitudes and habits in the care of younger children, and the ability to choose and to make simple items of clothing and to repair them economically. They may learn how to make and to use a simple plan of budgeting. The girl from the foreign home should become familiar with methods and ways of living in American homes, while, at the same time, *she learns to appreciate and to be tolerant of foreign ways.* She may help to teach her mother the "why" of some American ways. When the mother is inadequate as a homemaker, the adolescent girl may be trained to be a source of real help to her.

The adolescent boy can also acquire skills in homemaking and home improvement. He may learn how to prepare simple foods, to build fires, to keep conditions in the home hygienic, to

make simple home appliances and furnishings, and to make repairs in carpentry, painting, plumbing, and electric wiring.

There is also the recreational aspect of home life to be considered in the educational program—games, reading, radio programs, and handcrafts. This phase of education for family life is more fully treated below in connection with education for the use of leisure time, but its relation to the subject of training for family life is an important one. Both boys and girls may also learn how to aid in the welfare of the home and its members through the use of such community facilities as hospital clinics, public baths, settlement houses, organizations like the YMCA and YWCA, and the parks.

In order to realize the objective of worthy home membership, the closest kind of relationship between what the child is doing in school and in his life outside is desirable. The assumption that what the child has experienced in school will be carried over into the home may be made too readily. For the mentally retarded, special help is needed in making this transfer. The teacher should know the home conditions and the possibilities for carrying out in a particular child's home projects that have been launched in school. She should be ready to help the child to make any necessary adaptations of his school learning to his home situation.

Leisure. The individual should be helped to use his free time profitably and happily that he may derive from it satisfaction for himself and others and thereby become an asset to his home and community. This objective is obviously directly related to those of worthy family life and community life. The individual properly and happily engaged is saved from delinquency and is an asset in whatever group he is found.

It has been said that whatever one does to occupy his leisure time is a measure of what he likes to do. In a very large sense it may be said that what one enjoys is a matter of habit. The group, therefore, should be prepared for the right use of leisure time through the formation of right habits and attitudes. The school should guide the children to experience satisfaction again and again in legitimate recreational activities so that they will choose these outlets as a matter of habit. They should learn the

joy of good music (of listening to it, singing, and dancing to its rhythm), the delight of physical activity (of walking, swimming, and skating), the satisfaction of simple handicrafts (of sewing, dyeing, weaving), and of occupations (painting, gardening, the construction of simple furniture) that may make for home improvement. It is in physical, not mental, activity that the slow-learning group will find their recreation; so the cultivation of skill and pleasure in such activities as those suggested rather than in artistic or literary pursuits is of importance for them. Radio, television, and motion pictures as channels of entertainment should receive special attention. The teacher has the opportunity to guide them throughout their school life in choosing the better programs.

It is also important that the child learn to enjoy things with others (to be a good companion and a good friend) and to use *community facilities for his recreation* (the library, evening schools, club and settlement activities). Since he is typically more suggestible than other children, it is especially important that his leisure time be spent in an atmosphere and among persons most likely to exert a wholesome influence. He should be encouraged to turn to his church, his neighborhood settlement house, or the school for his recreation or for advice about it rather than to the first person he meets. One notes here, in passing, the need for a follow-up worker who could direct this group out of school—both during and after their school life—not only in their vocations but also in their recreation.

Occupations. The individual should be enabled to become a satisfactory and happily adjusted wage earner in unskilled or semiskilled work and to maintain satisfactory relationships with his employer and fellow workers.

The child should be directed in the development of habits, skills, and attitudes that will help him as much as possible to adjust himself to a job he is capable of filling. Habits of working neatly and honestly, of caring for tools and materials economically, and of being punctual, cheerful, and steady must all be developed. The child should learn to use tools and materials skillfully and independently. He should learn about the require-

ments for local jobs that he may be able to fill and the amount of remuneration that may be expected from different kinds of jobs. Confidence and self-respect should be established in relation to the kind of job he is able to fill.

The child should also be given some understanding of how man is constantly improving his uses of raw materials and his ways of doing things, and some idea of the changes that have come about in industry and living as a result of these improvements. He should be given some simple appreciation of how men work together, of the relationship between workers and employer, and of the contributions of each to the whole.

Those girls who are reliable and are capable of acquiring the habits and skills needed in homemaking will find channels for service in convalescent homes and private homes.

If the right kinds of habits, skills, and attitudes are acquired, the individual will be better able to adjust to different kinds of jobs, although he may have specific new processes to learn in each case. If he has good steady habits, uses his hands skillfully, and knows something about machines, the boy may, in a short time, learn the manipulations and make the necessary adjustments to feed a printing press or wind coils in a telephone factory. The girl may learn to fold paper boxes or to baste sleeves.

Success in vocational life depends largely on health, personality traits, skill, good working habits and attitudes, and stability in the home. By seeking to develop these important assets teachers may hope to give the mentally retarded child his best preparation for vocational effectiveness.

Meeting the Needs of the Individual

The outstanding objectives to be sought for in educating the mentally retarded are mental and physical health; a practical working knowledge of the tool subjects; worthy community and home life; worthy use of leisure; and adjustment in occupations. *Some of the group may never attain these goals completely, but the school cannot afford to strive for less if its task is to be the*

development of the individual so that he can enjoy and contribute to the worthwhile activities of life to the fullest extent of his capacity.

Throughout the whole program of striving for these educational goals with the slow-learning group, repeated emphasis must be given to the necessity for meeting the present needs of the individual. Much of the school's effort in the past has been ineffective because the child failed to relate the knowledge, skill, or habit learned in school with a present need. Too often it was learned for the teacher's sake and not as a better way of responding in a real situation. Through lack of application and use, much of it was not retained and more of it was valueless. For the retarded child, it is of special importance that everything be learned in a situation that gives it meaning and relates it to a present need. John wants to make a boat; in the library he can find a diagram of the model. He wants a good adventure story, or he wants to identify a new butterfly; the library will satisfy these needs. He learns to use the library, to consult the children's librarian, the card catalogue, and so forth. The library habits that are built up must serve John's immediate needs. But his new learnings and habits must, in every case, be so conceived and directed that they will come to function in other situations and continue so to function as he grows older.

The school life of the retarded child must be so planned that it includes experiences that stimulate and satisfy worthwhile present needs and also encourage progress toward the ultimate, significant goals of his education.

Every such educative experience should be measured by the following criteria: Does it promote

- health, both mental and physical?
- a practical application of the tool subjects?
- better home membership?
- better group and community living?
- a better use of leisure time?
- desirable working habits and attitudes?

Any experience that promises the advancement of one or more of these needs while it creates and satisfies the pupil's immediate needs may safely be considered a worthwhile one to

develop in the classroom. The second part of this book will concern itself with the description of a program that attempts to fulfill these requirements.

Questions and Suggestions for Study

1. Review the statements of objectives for the education for all American children outlined in this chapter. Discuss their significance in today's society.
2. Discuss the significance for special education of high-school life adjustment programs.
3. How may "education for a changing civilization" affect objectives for the education of the mentally retarded?
4. Discuss how general home conditions in the retarded group may hinder the attainment of each educational objective outlined.
5. State ways in which the school may direct its work to overcome certain hindrances.
6. Summarize your understanding of three of the objectives for the retarded that are discussed in this chapter. Consider the definition of each; the reasons why it is included; the practical activities to be realized from it.
7. Give two incidents to illustrate the statement that whatever we do to occupy our leisure time is a measure of what we like to do.
8. Give from your own experience three instances in which meeting the child's present need has prepared him to meet a future need.

Reading References

DEPROSPO, CHRIS. "A Suggested Curriculum for the Mentally Retarded." (*Special Education for the Exceptional*, eds. Merle E. Frampton and Elena Gall, Vol. 3.) Boston: Porter Sargent, 1955, pp. 472-78.

The goals stated are occupational and social adjustment, human relationships, better living, personal development and growth, and total adjustment.

FEATHERSTONE, WILLIAM B. *Teaching the Slow Learner*. New York: Bureau of Publications, Teachers College, Columbia University, 1951.

Suggests the Educational Policies Commission formulations of educational objectives as a guide to developing specific goals for the slow-learning.

HAVIGHURST, ROBERT J. *Developmental Tasks and Education* (2d ed.). New York: Longmans, Green & Co., Inc., 1952.

An overview of development from birth to adulthood which emphasizes the tasks which children must master at each period for adequate life adjustment.

KIRK, SAMUEL A., and JOHNSON, G. ORVILLE. *Educating the Retarded Child*. Boston: Houghton Mifflin Co., 1951, pp. 115-21.

Discusses objectives for the education of the retarded that are stated in different ways and summarizes eight specific aims.

STEVENS, GODFREY D. "An Analysis of the Objectives for the Education of Children with Retarded Mental Development," *American Journal of Mental Deficiency*, 63 (Sept., 1958), 223-35.

Reviews educational objectives stated for the retarded over a period of twenty-five years and suggests a framework for curricular statements.

STRATEMEYER, FLORENCE B., FORKNER, HAMDEN L., and MCKIM, MARGARET G. *Developing a Curriculum for Modern Living*. New York: Bureau of Publications, Teachers College, Columbia University, 1947, pp. 457-58.

Approaches objectives and curriculum content from the standpoint of persistent life situations which the handicapped child must meet.

WALLIN, J. E. WALLACE. *The Education of Mentally-Handicapped Children*. New York: Harper & Bros., 1955, pp. 245-68.

Discusses the objectives of wholesome personality, use of leisure, occupational competence, and civic responsibility.

Part III

Organization of the Program

other children. The untested assumption is that he has ability equal to that of other children and that he will succeed equally well. Although slow to learn, he has generally developed language, can take care of his personal needs, and is social and enjoys play with other children. Parents think of school and teacher as agents for their child's advancement. Retardation is recognized in comparatively few cases.

But from the beginning, the mentally retarded child is likely to be poorly adjusted in his school life. When he comes into this new environment which has standards of behavior different from those of his home because they apply to large groups of children living and working together, he often fails to make satisfactory adjustments. Because of his limited innate ability and the readiness of his brighter peers, the situations in his environment do not readily stimulate him to investigate, to question, or to make deductions. In the kindergarten he is slow to participate in games, music, play, and conversation. Then, too, he lacks the ability to acquire certain skills expected of all in his school group. Even in a pre-first-readiness program designed for less mature children, his reactions and progress are often noticeably behind others. In the first grade, where success is still dependent on learning to read, he cannot keep pace with the other children. Continued effort to bring him into conformity only emphasizes his inadequacies and causes failure and repetition of grades. This, in turn, often results in listlessness, indifference, idleness, carelessness, feelings of inadequacy and dejection, or aggressive attitudes of interference with others, attention-getting, or destructiveness—in short, in a series of unwholesome attitudes. Thus the slow-learning child working in the traditional grade organization fails to experience the success and satisfaction that are due every child in his school life.

It is in response to the recognition that these children must have an educational program suited to their needs and capacities that states have made legislative provision for special education programs. However, owing to such conditions as lack of finances, building space, equipment, psychological services, and qualified teachers, there are many communities unable to provide

a special-class program. Others can provide classes for some of the group only, usually the most outstanding cases. A comparatively small number of towns and rural communities plan an adapted program for the individual child which can be carried on in the classroom. Whether a special-class organization is possible or whether conditions require that the retarded child work in the regular classroom, it is desirable that all slow-learning children be recognized at an early age and be provided with suitable educational opportunities from the beginning. Such a program could reasonably be expected to increase greatly the number of individuals with good habits, healthy attitudes, self-confidence, and self-reliance to carry on to the limit of their ability in the home, the school, and the community.

Early Discovery of Problems. In the school system which places emphasis on understanding children and individual patterns of growth, the retarded child has a better chance for recognition and success. Preschool health examinations, parent-teacher conferences when the child enters school, observation and anecdotal records during the first months—all aid teacher and principal in studying pupils and planning for them. The school psychologist, school counselor, or local guidance center may be invited to aid the teacher in her study. Group tests and teacher evaluations at the end of the first school year's experiences afford opportunity for further evaluation and planning.

In the school system which recognizes and implements child study, educational programs are adjusted to all children whatever the need. Hence, the slow-learning child is not forced to meet situations of failure. His work is adjusted in the classroom during his first years, and he has opportunity for success at his level of ability. A well-ordered program of special education enables him to enter a special class when he needs more individual attention and more concrete learning experiences than the grade teacher is able to give.

Too few retarded children, however, grow up in so adequate a program. Until more communities and schools are challenged to provide adequate health and child study services, to engage teachers trained to understand children, and to promote special

services for all children whatever their need, the majority of mentally retarded will not have successful school experiences from the beginning of their school attendance.

Provision for Class Organization

Administrative Leadership. Administrative recognition of an education program for the retarded child should be regarded as an integral part of a general school program to understand all children as individuals and to provide equal opportunities for all according to their respective abilities. All children, even those who learn slowly, have abilities that can become assets in their sphere of life, and the purpose of the school program is the development of those abilities. The success of the special class, the security and progress of the teacher and pupils, is due in no small measure to the administrative leadership in the school system and in the individual school. When administrators, both superintendent and principal, understand and accept the purposes and nature of the program, they are ready to interpret it to the public and to the parents. They are also ready to support and to aid the teacher in carrying it out. The administrator readily assumes responsibility for giving attention to the size, location, lighting facilities, seating, equipment, and materials of special-classrooms. The special-class teacher and pupils are accorded the same consideration as any other class unit in the system or building, with opportunity to share in school activities. Under adequate administrative leadership, the community, parents, and regular staff will grow to accept and to recognize the value of the program.

Special-class organization is different from grade organization because of the small numbers to be served in any system and the individual pupil needs. Optimum organization of classes in either urban or rural areas presents a challenge. The responsibility for the establishment, maintenance, and organization (pupils enrolled) lies in the hands of the administrator.

State leadership and financial assistance to the local school system for psychological services, qualified teachers, and transportation make possible better special-class organization in

cities. In New York State, for example, the following organization is recommended by the Bureau for Handicapped Children:

<i>Class</i>	<i>Chronological Age</i>
Preprimary	5-7 or immature 8
Primary	7-9 or immature 10
Intermediate	10-12 or immature 13
Junior High	13-15 or immature 16
Senior High	16-18 or over

The chronological age range within any class should not exceed four years with *maximum total enrollment* at 15 in the elementary school and at 18 in the secondary school. Three levels of class organization that are likely to increase in number not only in New York State, but in other states as well, are the preprimary, primary, and secondary. Parents' interest in early education, increase in diagnostic services, and legislative provisions for educational programs extending beyond the compulsory school age are factors.

Classification and organization of groups depend to a large extent on the school setting, the number of pupils to be cared for, and the facilities for grouping children of similar ages, abilities, and interests in the particular school system.

Large City-Systems. In school systems of from 10,000 to 40,000 pupils, enrolling respectively about 200 to 800 special-class pupils, there is an opportunity for classifying children of similar chronological, social, and mental development. The organization of special classes in the school system of Rochester, New York, represents such a system and is fairly typical of what is found in the larger communities.

There are several elements that make possible the grouping of children of near ages and similar interests in the special classes in Rochester. The elementary and high schools enroll approximately 34,500 pupils; the special-class organization cares for about 600 mentally retarded pupils. There is sufficient number of classes to care for virtually 95 per cent of the total number of mentally retarded in the schools. There is a program of individual health and child study services and of teacher observation to discover children's needs early. The Department of Psychological Services make careful diagnoses and recommends treat-

ment for individual children, thus guiding the proper placement of children in groups most conducive to their individual growth. There is effective cooperation among principals, home and school counselors, and special education teachers in securing the approval of parents for the placement of children in such classes.

TABLE 5

ORGANIZATION OF CLASSES FOR THE RETARDED IN A CITY SCHOOL SYSTEM
(I.Q. from 50 to 75)

Schools and Classes	Chrono-logical Age Range	Number of Years Retarded	Approximate Grade Ability
In the Elementary School (K-7)			
Preprimary	6-8	2-3	K-1
Primary	8-10	2-4	1-3
Intermediate	10-12	3-5	2-4
Mixed, Boys', or Girls' Classes	12-14	3-5	3-5
In the Secondary School (7-12)			
Girls' Classes	14 or 15 to 17 or 18	4-6	4 to 5 or 6
Boys' Classes	14 or 15 to 17 or 18	4-6	4 to 5 or 6
(3-year program in occupational education)			

Programs in the various classes are so obviously suited to the children's needs that, when it is necessary, parents generally are willing to have their children go out of their own school districts, the city providing bus fare or bus transportation for this purpose.

Table 5 shows the make-up of typical special classes in a city school system. These groupings necessarily show some overlapping because of differences in learning ability at the same chronological-age level, differences in physical and social maturity, and variations in numbers in different school districts.

A detailed picture of the range of ages and abilities of pupils in three representative special classes may be obtained from a study

TABLE 6

PUPIL PERSONNEL OF THREE REPRESENTATIVE SPECIAL CLASSES IN A COMMUNITY ENROLLING 22,500 ELEMENTARY-SCHOOL PUPILS

Range in Age Levels (in Years and Months)	Chronological Age			Mental Age			Educational Age		
	Number of Pupils in			Number of Pupils in			Number of Pupils in		
	Primary	Inter- mediate	Girls'	Primary	Inter- mediate	Girls'	Primary	Inter- mediate	Girls'
5 to 5-11 (kindergarten to preprimary)				5			7		
6 to 6-11 (first grade)				9			9	1	
7 to 7-11 (second grade)	3			2	5	1	2	8	6
8 to 8-11 (third grade)	7				10	4		9	9
9 to 9-11 (fourth grade)	5				3	8			4
10 to 10-11 (fifth grade)	1	5				6			
11 to 11-11		7							
12 to 12-11		4							
13 to 13-11		2	8						
14 to 14-11			10						
15 to 15-11			1						
Total	16	18	19	16	18	19	18	18	19

of Table 6. The classes described are representative groups in one elementary school which is in the home school district of a majority of the children (about 40 per cent of the pupils come from neighboring districts). In most cases, the retardation of the children was discovered early. Fully 60 per cent of the primary children are entered at seven or eight years. The least overlapping between classes occurs in measures of chronological age and physical maturity. In mental development and educational achievement, there is greater overlapping.

The larger the school population, the greater is the opportunity to form groups showing a minimum of diversity in physical, social, mental, and educational abilities. The greater is the opportunity, also, to plan for developmental curricula suited to the children's capacities and ongoing needs.

Secondary School Classes. The responsibility of the secondary school for meeting the needs of retarded pupils is recognized in Rochester, New York. Retarded girls and boys are transferred to special education classes in high schools. This plan is in keeping with the general city organization (7-5 plan) which enables any pupil fourteen years or over, even though retarded scholastically, to enter a secondary unit. All mentally retarded children, therefore, who can participate socially and benefit from the school life of a secondary unit are given the opportunity. Only a selected few—those who cannot achieve such independence—are provided for in an advanced class in a centrally located elementary school.

Table 7 shows the make-up of three classes classified as seventh, eighth, and ninth in one high school. Girls enter the high school with a seventh-grade classification, as do several overage groups from the elementary schools. This three-year organization enables the pupil to experience the satisfaction of a planned sequential program with grade status like other pupils.

Small City Systems. In the small community the main purpose of the special class, or classes, is obviously to serve the most serious cases of retardation, but borderline or dull-normal pupils who have become problems in the regular classroom are also often included to assure individual attention as well as to keep up the quota of attendance in the special class. Such a class

TABLE 7

MAKE-UP OF THREE SECONDARY-SCHOOL CLASSES IN A CITY SYSTEM
ENROLLING A TOTAL OF 11,950 HIGH-SCHOOL PUPILS

Chrono- logical Age in Years and Months	Grades			I.Q.	Grades			Reading Age in Years and Months	Grades		
	7th	8th	9th		7th	8th	9th		7th	8th	9th
14-0 to 14-11	8			60 to 65	5	4	1	4-0 to 4-9	18	5	4
				66 to 70	7	5	2				
15-0 to 15-11	13	8		71 to 75	9	5	4	5-0 to 5-9	4	6	2
				76 and above	2	3	3				
16-0 to 16-11	2	6	5					6-0 to 6-9	1	6	4
17-0 to 17-5		3	5								
Total	23	17	10		23	17	10		23	17	10

will consequently have a wider range in its make-up than that in the larger community. A community where the number of slow-learning is small has a special challenge and responsibility in selection and organization from the standpoint of both the individual and the group.

Table 8 indicates the wide range in chronological age, intelligence, and grade ability in representative special classes in three small communities. Here the young, incapable child is placed with the physically mature adolescent. In the first two groups, dull-normal pupils are also included. Town C shows the group most nearly homogeneous according to measurable range, having only one ten-year-old, no child with I.Q. of 80 or above,

TABLE 8

PUPIL PERSONNEL OF TYPICAL CLASSES IN SMALL TOWNS WITH A SCHOOL POPULATION OF FROM EIGHT HUNDRED TO TWO THOUSAND

Range of Characteristics	Town A (18 Pupils)	Town B (14 Pupils)	Town C (17 Pupils)
Chronological Ages:			
7 to 8-11.....	1	2	0
9 to 10-11.....	1	5	1
11 to 12-11.....	7	4	2
13 to 14-11.....	6	1	8
15 to 16-11.....	3	2	6
I.Q.'s:			
50-59	3	2	1
60-69	6	7	8
70-79	6	3	8
80-89	2	0	0
Undetermined	1	2	0
Educational Ability in Terms of Grade Standards	1-5	Preprimary to 5	2-6

and all having at least second-grade ability in reading and other important skills.

There is need for better service in many small communities. The growth in consolidated schools and the extension of bus service aid the administrator in bringing together children with like needs from several districts. Such arrangements should make it possible to form groupings of children with less diverse abilities and interests than those groups pictured. For example, one center serving a wide area has a class for preadolescents and another class for adolescents. The chronological-age ranges for these two classes are, respectively, from eight years, six months to twelve years, five months, and from twelve years, eleven months to sixteen years, six months. The first of these groups housed in the elementary unit receives a foundation in communication arts, practical reading and number, in health, manual skills, and social living. The second group housed with the

junior high school unit has more advanced work in the above areas with attention to job skills and employment needs. The organization of these two groups is commendable and implies advantages of such a plan for the child and the teacher.

In Kern County, California, which comprises sixty-two elementary-school districts, a "cooperative special class" serves small districts, and special classes serve larger districts.¹ The entire program entails choosing the centers, planning budgets, selecting teachers, arranging bus transportation, organizing the resources of the community, orienting the family and child for placement, and guiding the program. These several responsibilities are shared with administrative, child guidance, health, and teaching staffs.

Grouping of Children. Although there is general recognition that special classes can give better service when organized for children of about the same age who have similar interests, too many administrators are content to organize a class of wide age range and diversified interests. An examination of Table 8 suggests that, in many cases, the differences in the levels of physical, mental, and social development in any one group are sufficiently great to produce a wide diversity of interests and of probable responses to any given appeal. From the standpoint of teaching skill, full use of equipment, effective curriculum, and sound methods, such a situation is far from ideal. An effort should be made to group together children of similar learning ability, physical maturity, and social interests.

Some teachers are especially gifted in teaching younger children, others in teaching adolescents. The young child needs creative manual arts, play, and social situations that provide language and reading stimuli. Adolescents need social and occupational direction and companionship with other adolescents. Then, too, it is almost impossible for one room to provide the variety of equipment and material needed by pupils of many different ages or interests. For instance, the young child needs apparatus and large toys for play, an abundance of manipulative

¹ Ernest P. Willenberg, "A County Program of Public Education for Mentally Retarded Children," *Journal of Exceptional Children*, 16 (Feb., 1950), 129-35.

material, and space in which to use it; the older pupils need a workbench and room to lay out work, a cutting table, a sewing machine, pressing board, and so on. Even a very skillful teacher finds her time and resources taxed almost beyond their limits by the demands of a very diversified group. Even so, she may provide more help to her slow-learning pupils in such a group than could the teacher in a regular grade who expects the same standards of accomplishment from all children.

The fact of long school attendance also points to the urgent need of the adolescent boy and girl fourteen to sixteen years of age to be with others of his or her own age. The fourteen- to sixteen-year-old average boy and girl are in junior or senior high school with their own age group. The mentally retarded pupil of this age, after an equally long period of attendance and effort, is often detained with young children in an elementary school. The effect on his whole morale is easily imagined. The junior and senior high school should be ready to accept these pupils. The special class in the small community might be organized entirely to serve the adolescent, the younger slow-learning child being given special care in the grade group until he is eleven or twelve years of age.

Modifications of Plans. If, in the small community with only one special class, there are a flexible grade organization and curriculum, rooms equipped for activity, and an understanding principal and teacher, it may be better to allow the young mentally retarded child to remain in the regular primary grades rather than to assign him to a special class. In the regular primary group he can enter into group activities—play, stories, music, and construction—and have an adapted program for his reading and number work. He may also be allowed to go on from grade to grade, not because he has “passed” the subjects of any grade, but because each year he has achieved what he was capable of achieving and has developed physically and socially. His specially adapted program may each year be continued from the point where it left off the year before. Such an arrangement will be conducive to his mental health to the degree that teacher and children accept him socially as a member of the group and recognize his achievements as worthy and valuable.

When he is eleven or twelve years old and his physical size and the content difficulty of the work of the grade make sharing in class activities difficult or awkward for him, he may be placed in the special class where program, equipment, and curriculum are suited to his mental and social development. Where such provision is made in the regular grades for the slow-learning primary-age children, one special class might well be made to care for the slow-learning adolescents who must attend school until they are fifteen or sixteen but who are misfits in the regular grade rooms. Such a plan should also relieve the big boy and girl of the stigma and humiliation that inevitably attend his being in a class with younger children.

Other small schools with one or two mentally retarded children at each grade level use the special teacher as a tutor. There are two communities of average or above-average economic status, for example, where the mentally retarded children (none of whom have I.Q.'s below 65) are enrolled in the regular grades and a special teacher is assigned to them as a tutor. They participate in the grade activities except in the tool subjects, social studies, and some industrial arts, for which they report to the special teacher. A few grade children who need special help in some subject have also requested and been granted permission to go to the special teacher for help. The schools report that the pupils and parents consider assignment to the special teacher a privilege.

Another community reports a scheme of "give and take" with the regular grades, in which some of the special-class children attend art, health, and social studies classes with the grades, and children from the grades in need of special remedial work go to the special class for it.

As schools come to recognize individual growth patterns and the needs of individual children, and to develop their programs of education on this understanding, plans for caring for the mentally retarded will readily be developed or modified to fit the needs of each particular community.

Rural Communities. There is growing concern for the child in rural areas. An increasing number of state departments give leadership and assistance to meet this need.

Wisconsin statutes (SECTION 41.01) provide that a county superintendent of schools, upon authorization of his county board of supervisors, may establish special-class services for any of the various types of handicapped children, including the mentally retarded.²

Local, county, and state administrators cooperate in defining the need for service. Parent, teacher, and community group meetings are sponsored for discussion and interpretation of the program. Retarded children are identified and studied. Sometimes as long a period as two years is spent in developing an understanding and readiness for establishment of a class to serve children from several small school districts.

In New York State, boards of cooperative educational services and county vocational education and extension boards may service mentally retarded children in rural areas with sparse population. These boards may arrange psychological services and may organize and operate special classes to serve several school districts within a given county.

The state of Pennsylvania has developed a plan of county supervisors of special education to serve fourth-class school districts. The supervisor's responsibilities are: (1) to identify every exceptional child, (2) to determine the type of exceptionality, (3) to help the teacher to understand the exceptional child and plan her program to include him, (4) to help the exceptional child to make more satisfactory adjustment to school and community, and (5) to help the parent understand his child in terms of individual performance and abilities.³

The demands made vary with the county, but there is flexibility in schedule and services to meet local problems. The county supervisor has been an active agent on behalf of all exceptional children and has been particularly helpful in aiding the teacher to understand and make adaptations for the slow learners. Experience has proved that the mentally retarded child can enjoy success and growth in the regular class of the

² John W. Melcher and Kenneth R. Blessing, "Special Education for Rural Retarded Youth," *Exceptional Children*, 23 (Feb., 1957), 207-10, 214.

³ Donald L. Cameron, "Functions and Qualifications of the County Supervisors of Special Education in Pennsylvania," *Penn State Review of Educational Research*, 8 (Nov., 1956), 4-5.

school where the teacher understands the individual child and makes certain adaptations of her teaching program to his needs.

Organization and Program for Special Classes

Much of the character of the special-class organization in any community evolves from the fact that children of different ages and school levels are admitted into its ranks whenever occasion arises. Original placements and shifts from one special group to another are all matters of individual consideration; there is nothing fixed about the character or ability of the personnel of any one class from year to year or from term to term. Periods of attendance in a special group may vary widely for the individuals in that group. The only factors controlling the membership of the group are the specific needs of the individuals, determined by thoughtful consideration of all the various phases of their development. This situation is very different from that of the usual grade organization which accepts at one time large groups of children six or seven years old, sets for them certain standards, gives them a definite program, and promotes them to succeeding grades at regular intervals. The special-class organization may receive at any time in the year pupils of any age and of any amount of school experience. The range and level of the abilities of a class will change from time to time depending on the pupils to be served.

This fact means that the program of work for any one special class cannot be a definitely prescribed one. It will vary from term to term and from class to class. The standards and the subject-matter goals for each class must be derived from the capacities and needs of the children who are to be cared for.

These conditions—the irregularity of pupil placement as to age of pupil and time of school year, the diversity in abilities and background in the group, and the lack of a set time for evaluating accomplishments of abilities, skills, and habits, for rating those accomplishments and for carrying out promotions as in the regular grades—are present in every special-class organization. They must be taken into consideration in planning an effective developmental program of education for the child from

class group. But, for this purpose, it has proved quite inadequate. A definition of suitable and developing competencies or attainments that could be attempted by this particular group at succeeding ages is greatly needed as a means of evaluating and guiding the progress of individual children.

Similar conditions and needs resulting from the variety of backgrounds and abilities of children in general are coming to be recognized and met in the regular organization of the schools. Progressive schools have been experimenting for some time with a freer and more individual type of progress which does not demand conformity to rigid group standards. In the elementary schools, semiannual and annual promotions have given place to longer promotional units covering the primary unit (kindergarten and first to third grades) and the intermediate unit (fourth through sixth grades). The junior high school and the senior high school are coming to accept and provide for all children at twelve and fifteen years of age respectively, although the degree of maturity and achievement of these pupils may vary widely at entrance.

Continuous progress and articulation of work from year to year are being sought for all children. Means are being studied for measuring development and progress that will allow each child to go ahead at his own rate. As schools make possible such articulate and continuous pupil progress, the traditional "grade" and "promotion" systems will give way to a more satisfactory plan based on understanding of the continuous growing nature of child development.

State-sponsored special services available in a number of states are designed to enable the local school to reach the individual child wherever he is in school attendance. Those provisions should result in better service to greater numbers.

Suggestions for the Administrator

The facts presented in this chapter suggest certain definite statements regarding a program of education for the slow-learning. These statements have particular significance for the administrator.

1. It is important to discover and provide for the handicapped child at as early an age as possible, before attitudes and feelings related to failure are established.
2. Because of the diversity of background in the school experience of the mentally retarded, the teacher should know as much as possible of the school history of each individual pupil, that is, length of his school attendance, grade repetitions, and the personality adjustments he has made under those conditions.
3. The program for the slow-learning in either the grade or special class must be flexible so that the individual child may be one of a group but work at his own level of accomplishment.
4. Children of similar ages, abilities, and interests must be grouped together in so far as possible so that the program in any one class can be suited to the physical maturity and the mental and social development of the individuals in the group, with the possibility of adjustment from year to year as they attain certain stages of maturity and development.
5. Emphasis must be focused on the all-round growth and development of the child for each year he is in attendance at school rather than on his accomplishment in terms of grade levels.
6. The program must emphasize the educational possibilities of the large percentage of pupils who fall at the higher I.Q. levels without losing sight of the needs of the less capable minority.
7. A progressive, well-integrated program must be so built up step by step from the time of school entrance to at least the limit of compulsory school attendance that the child will be helped to work wholeheartedly toward standards and accomplishments within his reach and to realize his progress from week to week and from year to year.

These inferences suggest needs that an education committed to compulsory school attendance and equal opportunity for all must meet—the adequate identification of the slow-learning child and the planning of a suitable curriculum and suitable methods for his education.

Questions and Suggestions for Study

1. List the advantages that the special-class organization in a city system has over the organization in a small community.
2. Describe an informal school setup in a small town and discuss ways of adapting it to the needs of the younger mentally retarded in the primary grades.
3. Cite some cases of pupils you know who are up to grade in accomplishment but who are physically and socially immature. Describe their behavior and interests.
4. Make an outline of items of information that the teacher should prepare for the purpose of studying both the make-up of the group and the individual pupil in her class.
5. At what ages should educational planning begin for the mentally retarded child? Give reasons for your answer.
6. What are some of the important learnings for this group that cannot be stated in terms of grade ratings?
7. What are the disadvantages of the individual when a class of mentally retarded are all given work of the same difficulty?
8. Make a list of advantages that the mentally retarded may derive from high-school attendance.
9. How closely related to the discussion in the present chapter are the principles outlined in Chapter 4? List the principles that are most closely related to the plans suggested in this chapter.

Reading References

CRUICKSHANK, WILLIAM M., and JOHNSON, G. ORVILLE (eds.). *Education of Exceptional Children and Youth*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958, pp. 189-225.

Gives an overview of organization and other features of a program for the retarded at elementary and secondary level.

DOYLE, FRANCIS W., BOWER, ELI M., and DALY, FLORA. "Information Regarding the Education of Mentally Retarded Minors in California," *Bulletin of the California State Department of Education*, 24 (Aug., 1955).

A compendium of information describing the organization of classes and program for educable retarded children in the state of California.

HEILMAN, H. L. "A Suite for Educable Mentally Retarded Children in Elementary School," *Exceptional Children*, 21 (May, 1955), 289-91, 310.

Describes a classroom suite for the educable mentally retarded children who are integrated into a regular elementary school. The

normal capacity of each room is 18 to 20 pupils, or a total capacity of 36 to 40 pupils.

KIRK, SAMUEL A. "What Is Special About Special Education—The Child Who Is Mentally Handicapped," *Exceptional Children*, 19 (Jan., 1953), 138-42.

An informative reference for administrator and teacher.

MARTIN, C. LEWIS, and O'BRIEN, CLEONE E. "Area Programs For Exceptional Children," *Illinois Education*, 47 (Oct., 1958), 50-51.

Illinois law provides for the education of handicapped children in rural districts, or in suburban areas surrounding large cities through a "joint agreement area" plan.

ROTTER, GEORGE E. (ed.). *Planning for Mentally Handicapped Children in Nebraska Public Schools*. Lincoln, Neb.: State Department of Education, 1957, pp. 1-16.

Presents organization and administration of educational programs for the mentally retarded in the state of Nebraska.

TAYLOR, EDGAR A. "Finding Classrooms for the Mentally Retarded," *Exceptional Children*, 19 (Apr., 1953), 251-54.

Describes a well-lighted, attractively decorated and properly equipped room for a county class of retarded children. It was provided by ingeniously salvaging temporary classroom structures no longer needed.

8

Selection of Children for the Program

There is no phase of the program more important than the identification, study, and diagnosis of the individual child. Growth in community diagnostic clinics with personnel trained to service the retarded child and growth in school psychological services attest to this recognition. Thorough psychological study and evaluation is a must in every well-rounded educational program. The selection of children for special treatment should be made on as comprehensive and scientific a basis as possible in order that only those children who need the special type of educational program planned for the mentally retarded group may be included in it. Those who would profit more from some other form of school adjustment should be given the treatment that will be of most value to them. Understanding of the child's general behavior and of the conditions that lie back of his retardation are, then, significant for the teacher as she tries intelligently to meet his needs.

Adequate study and diagnosis are essential in a well-rounded program. Current medical and psychological research is focused on the causes and symptoms of mental deficiency to establish a basis for diagnosing, treating, and educating the child who is arrested or retarded in his mental development. Research on

familial mental deficiency, early childhood deprivation, brain injury, pseudoretardation, and glandular dysfunction is revealing the prevalence and significance of individual variations and potentialities within the group. Differential diagnosis based on cause and conditions is an aid to planning the child's program. Research on the brain-injured child, for example, reveals disturbances in perception, thinking, and behavior which are satisfactorily treated by specially devised methods.

Recognizing that psychological study of any problem requires more than the administration of an intelligence test and determination of an I.Q., a number of states have requirements and certification for the school psychologist. Provisions for the cooperation of school districts to share psychological services with subsidy from the state makes study and diagnosis generally available in the smaller school districts. The services of a qualified psychologist are essential in a school system that is committed to serving the individual differences of its pupils.

The school psychologist studies children having many different problems and needs. His service is wide and varied in any school system. His responsibility is a complete study of the individual whatever the problem or the source of referral. The particular concern in this text is the psychologist's service to the retarded child who is in need of a special education program. Study and recommendations in this instance are for the purpose of understanding the child and aiding his adjustment on the part of those responsible for the child's guidance and teaching. The psychologist is particularly concerned to aid the classroom teacher, the key figure in the teaching-learning program.

Methods of Discovery and Study

The identification and diagnosis of the need for special education have too often come after the child has experienced failure and defeat. There is every indication that more children will be discovered at preschool age. Teacher recognition of problems and psychological services will be operative from school entrance through the early years to identify children before failure, with its attendant negative effects, has overtaken

the child. Annual school census programs are designed toward this end.

Annual Census Reports of Handicapped. There is the movement to establish procedures for adequate census-taking of handicapped children. A number of states have in the past required annual census reports from local school systems. These procedures are being refined and extended to include all children from birth to adulthood who suffer any handicap, mental or physical.

In New York State an annual census of mentally retarded children for the purpose of locating those between the ages of birth and twenty-one years is required by state law from the local school district. This census includes children in school and those not in school. The need for identification and diagnosis at as early an age as possible is recognized. Since there is an awareness that educational retardation may be caused by other factors than mental limitation, particular care is exercised to insure that the reporting of each case follows individual study and evaluation by an approved psychologist or psychiatrist. The census report made on a state form lists those children definitely diagnosed as mentally retarded following such study.

There is a second report to be kept on file in the local school district for the child who shows behavior that may be symptomatic of mental retardation and who may need observation and study over a period of time. This second report is intended to insure continuing and thorough consideration of any child who on later diagnosis may prove to be a candidate for special education.

To aid in the screening process, discovery, and diagnosis of school-age children the New York State Bureau of Handicapped Children makes the following recommendations: (1) For discovery of preschool candidates superintendents are instructed to use all sources in the community, such as physicians, clinics, parents, and social and health agencies, and (2) For the discovery and screening of school-age children who should be referred for psychological study and diagnosis superintendents are advised to select (a) from age grade reports, (b) from achievement surveys, (c) from group intelligence test surveys,

and (d) from teacher's judgment. It is stated that from the above findings candidates may be selected for further scrutiny by a screening committee which might include the school physician, school nurse-teacher, school psychologist, school counselor, and school social worker (where these various pupil personnel service staff members are available), together with classroom teacher and principal. Such a screening procedure regularly carried out not only has value for the identification of mentally retarded pupils but can be a source of in-service training for teamwork.

A description of thorough psychological study and evaluation that is recommended for the individual child follows.

Psychological Study and Evaluation. Psychological evaluation by qualified psychologists will include the use of an individual intelligence test or tests, verbal and nonverbal achievement tests, and techniques for study of personality and social maturity, including in some cases projective techniques.

The tests used depend on various factors including the age and the ability of the child. The 1937 Revision of the Stanford-Binet Scale is widely used and is representative of an individual test, with a high percentage of verbal items. The Wechsler Intelligence Scale for Children has two parts: verbal and nonverbal. Performance tests to supplement the Stanford-Binet include some of the following: Draw-a-man Test, Healy Picture Completion Nos. 1 and 2, Cornell-Coxe Performance Ability Scale, and Arthur Performance Scale. Some of the commonly used achievement tests are the Gray Oral Reading Test, Gates Primary Reading, Metropolitan Achievement Tests, and Stanford Achievement Tests. The Vineland Social Maturity Scale furnishes a measure of social maturity. Projective techniques such as the Rorschach Test and the Thematic Apperception Test are employed by some psychologists to study personality structure and problems.

Other pertinent data concerning the child must also be available to the psychologist: (1) school history, (2) family, health, and developmental history including present home and family conditions, and (3) health, physical and medical data.

To aid in study, evaluation, and recommendations local school systems have generally developed forms for gathering pertinent data.

1. The form of *referral for study* (see Fig. 1), while it includes primarily the school history of the child, contains other items such as personality, behavior, and health status. The inclusion of these items affords the grade teacher and principal an opportunity to consider the several factors that may be affecting the child's retardation. From the referral form, the psychologist gains information on the teacher's impression of the problems and other facts. The statements made often give him cues to a significant condition for follow-up on his part.

2. The form for *developmental and family history* (see Fig. 2), including present status, gives information that is particularly significant. Facts and impressions are secured through the nurse, the school social worker, or social agency. Sometimes the psychologist deems it valuable to be the interviewer. The form for this area may be detailed, or briefly topical, suggesting items. Some of these items are: kinds of heredity, type of family, opportunity or lack of opportunity in the environment, the child's ability to make early adjustments in life (such as walking and talking), and the conditions (illness or accidents) which may have been factors in retardation, together with notes on parent and sibling attitudes toward the child. Good rapport between parent and interviewer enables the parent to express himself as freely as possible and aids often in revealing underlying motivations and feelings.

3. A form for the *health and physical record* should give a picture of the child's physical condition. A history of previous diseases often explains the present physical condition and defects. The medical examination should be thorough enough to determine the neuromotor, sensory, and organic functionings of the individual so that defects may be treated and helpful adjustments may be encouraged in the case of nonremedial defects.

4. The *child study report* of findings and recommendations will vary in outline and detail, depending on the type of problem presented by the case and the general plan of procedure in

REFERRAL FOR STUDY

Name _____ Sex _____ Address _____ Date _____

School _____ Grade _____ Teacher _____

Birth date _____ Verified _____ Age _____ Birthplace _____

Reason for referral _____

Father (own or step-) _____ Name _____ Age _____ Occupation _____

Mother (own or step-) _____ Name _____ Age _____ Occupation _____

Children (List according to age. Include child being referred.):

	Name	Sex	Age	School and Grade	Remarks
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____

Others living in the home:

Any significant home factors (illness, dependency, alcoholism, etc.) _____

Known to what social or health agencies? _____

SCHOOL HISTORY:

Present teacher's estimate of achievement (e.g.—readiness, 1.0, 1.5, 2.0, 2.5, etc.) _____

Read _____ Arith _____ Spell _____ Lang _____ Man'l Arts _____

Subjects liked: Best _____ Least _____

Special disabilities _____

Age on entering kindergarten _____ First grade _____

Schools attended _____ Grades repeated _____ Reason _____

Attendance: Irregular _____ Reason _____

Comments _____

Fig. 1. Form for Referral for Study.

Standardized Intelligence and Educational Tests

Date _____ By Whom Given _____
 Given _____ Name of Test _____ C.A. _____ Test Results _____ (Tchr., Psych., etc.)

WORK HABITS AND ATTITUDES: _____

PERSONALITY AND BEHAVIOR TRAITS:

Underline those terms which best describe child. Also check the (4) most outstanding traits:

Obedient, disobedient	Unstable, dependable
Industrious, lazy	Cooperative, defiant
Hyperactive, passive	Solitary, gregarious
Alert, indifferent	Honest, dishonest
Friendly, shy	Quarrelsome, self-controlled
Cruel, affectionate	Aggressive, listless
Impertinent, polite	Fearful, self-confident
Cheerful, unhappy	Mean, kind
Obstinate, willing	Destructive, creative
Truthful, untruthful	Socially immature
Outgoing, withdrawn	

Any nervous mannerisms? _____

How does he relate to his age mates? _____

HEALTH STATUS:

Date of last health examination _____

Height _____ Weight _____ Nutrition _____

General vitality _____

Vision: R _____ L _____ Wears glasses _____

Hearing: R _____ L _____ Wears hearing aid _____

Any other defects _____

Comments by principal _____

Signatures: Teacher _____ Principal _____

DEVELOPMENTAL AND FAMILY HISTORY

Name _____ Date _____
 Address _____ School _____ Grade _____
 Birth date _____ Place of birth _____
 Reason for referral _____
 Informant _____ Relationship to child _____
 Place of interview _____ Inform. obtained by _____

DEVELOPMENTAL HISTORY:

Prenatal conditions _____ Delivery _____ Wt _____
 Age of teething _____ Walking _____ Talking _____ Toilet training _____
 Habits and hygiene (developmental and present) :

Feeding _____
 Sleeping _____
 Elimination _____
 Dressing _____
 Other _____

MEDICAL HISTORY:

(dates, duration, severity, where treated, aftereffects)

Illnesses (include high fevers, acute and chronic conditions, convulsions) _____

Operations (needed and performed) _____

Accidents _____

Vision _____

Hearing _____

Fig. 2. Form for Developmental and Family History.

Neuromuscular dysfunction _____

Handedness _____

Others _____

PERSONALITY: (Describe freely)

Traits (with indications of changes) _____

Relationships (to family and others) _____

Interests (recreational and vocational) _____

Associates _____

Attitudes (toward home, school, community, and present problem) _____

FAMILY:

	Age	Religion	Education	Occupation
--	-----	----------	-----------	------------

Father	_____	_____	_____	_____
--------	-------	-------	-------	-------

Mother	_____	_____	_____	_____
--------	-------	-------	-------	-------

Siblings (order of age)	_____	_____	_____	_____
-------------------------	-------	-------	-------	-------

Relatives _____

Heredity (anything significant) _____

Changes (broken homes, etc.) _____

HOME CONDITIONS:

Neighborhood _____

Fig. 2 (Continued).

Economic status (past and present) _____

Cultural background _____

Adjustments to present living conditions _____

Relationships and attitudes within family group (toward each other and
toward child's problem) _____

Parents' recognition of need for help; suggestions for the solution of child's
problem _____

IMPRESSIONS OF INTERVIEWER:

Fig. 2 (Concluded).

the particular school system. This summary report is often the outcome of a staff conference where school psychologist as chairman meets school social worker, school nurse, teacher, principal, and a representative of a community agency that may be active. Each of the above specialties has its own unique contribution to make to understanding of the child's needs and to consideration for an effective solution. Items most often summarized are briefly noted as follows. The child's intellectual functioning is noted by his performance on the individual intelligence tests, both verbal and nonverbal, with a statement of any significant failures and successes. The degree of educational achievement on standardized tests reveals the child's accomplishments relative to his mental capacity. Findings from the use of projective techniques reveal personality structure and problems. Significant data from the child's developmental history, family history, and study of the home environment are

noted. The present physical and health status is summed up. Finally, the psychologist's report states the child's potentialities and outlines a plan for school program, physical care, follow-up in the home, and reference to social agencies if necessary.

A list of the main areas covered in a child study report follows. This will vary, of course, with the type of case reported.

1. Reason for referral
2. School history and progress
3. Psychological data (test results and interpretation)
4. Social and personality traits
5. Medical history and health status
6. Information:
 - (a) Family history, (b) Developmental history, (c) Home environment
7. Summary
8. Recommendations

The plan of study just described indicates the need for making diagnosis and selection dependent on a study of all factors affecting a child's retardation. Frequently, the child who is failing in his schoolwork is considered in need of special-class placement by principal and teachers, but a detailed study of his case reveals dull-normal or average intelligence with one or more factors, such as behavior, adverse home conditions, a special reading or number disability, or a sensory defect, as the cause of the difficulty. The best treatment for this child may be other than special-class placement. On the other hand certain conditions, such as an unsatisfactory home situation, a physical disability or emotional instability, together with borderline intelligence, may indicate that the special class will offer the best means of adjustment for a particular child. Case studies which follow illustrate the nature of the problems and the factors studied in arriving at psychological evaluation and recommendations. They also indicate the type of child study report prepared by this psychologist. The form and detail vary, depending on the school system, the staff available, and the experience of the administrator and teachers for whom the report is made.

Appearance and Attitude During Examination. Beth is an attractive, pink-cheeked, overly active little girl who has fairly clear speech. She is incoherent and impulsive. She performed all tasks with her left hand. At all times she looked at the examiner as if appealing for help. She appears very babyish and when asked her age she held up six fingers and said, "I'm sixteen." At first glance it is very difficult to believe that such an active, good-looking child could be as retarded as these test results indicate. She was happy and fairly relaxed in the testing situation.

Test Results. Revised Stanford-Binet Scale, Form L: C.A. 6-1; M.A. 4-1; I.Q. 67.

Wechsler Intelligence Scale for Children: Performance I.Q. 63

Goodenough Draw-a-Man Test: C.A. 6-1; M.A. 4-3; I.Q. 70.

Beth earned scores on these tests at a four-year-old level of intellectual functioning. On the Binet she passed all tests at the three-and-a-half-year level. Successes ranged through four and one-half years of age where she scored on two subtests. She is unable to copy a square and is still in the stage of drawing circles. At four years she identifies objects by use. Her oral vocabulary is meager. She can follow verbal directions at four years but visual perception and visual-motor coordination are much below average.

On the performance section of the Wechsler test her responses were comparable to those on the Binet scale. She scored below five years on all subtests. She was unable to grasp the idea of picture arrangement or assembling puzzles into a meaningful whole.

Personality. This child appears energetic and industrious but on close observation a great degree of aimless, impulsive behavior is evident. In her pictures she expresses basic feelings of inadequacy and weakness, and in general, a lack of awareness. The preschool characteristics one observes are individualistic play, random and seemingly unpurposeful activity, inability to complete tasks without constant supervision, and preference for manipulative play. The chewed nails and excessive blinking of the eyes suggest tension; regular school attendance may be too much of a strain on her energy.

Conclusions. Beth's performance in the psychological examination confirms the teacher's judgment. She is functioning at the intellectual four-year level. In many ways she is less mature than the four-year mental level suggests. She is in need of a modified program where individual attention can be given. She can learn but at her level and her slow rate. The evidences of mental retardation are as follows: Short attention span, impulsiveness, lack of personal and social security, very little initiative, need for constant detailed directions, inability to work independently, narrow interest range. Her assets are fair speech, pleasant manner, and a willingness to try. If she can be a part of a smaller group, she may be less frustrated and less nervous. There is need for parent-counseling and guidance.

Summary and Recommendations.

1. Beth is recommended for placement in a preprimary special class.
2. The nurse should continue her home follow-up on health routines to aid in easing tension and in correcting enuresis.
3. Learning activities (a) for developing auditory, visual, visual-motor perception, (b) for building concepts and vocabulary, and (c) for play and socialization with other children should be provided.
4. She should be guided to develop a sense of responsibility by having her, for example, take care of her wraps, go to and from places in the school building on her own, and put away her playthings.
5. Parent counseling is needed. If the father can be brought into the situation it would be beneficial, so that the entire responsibility does not fall upon the mother. Beth's parents should be encouraged to help her understand, carry out routines, and grow in responsibility. Following are some suggestions:

- (a) Give her tasks which she can complete.
- (b) Most important of all show her that you are pleased when she tries and does well. If she does not do something the way she has been directed, avoid scolding or doing it for her. This is often the reason for a child's thinking that he can not perform a task that is asked of him.
- (c) Be sure that she is watching and listening carefully when a direction is given. Show her how to do a thing rather than merely telling her. Repeat often the thing that she is being shown how to do.
- (d) Allow her plenty of time, yet do not allow her to dawdle. Help her only when she needs it, as she may be inclined to demand help in order to get attention. Let her do as much as she can for herself, although it may take her longer and require patience on the part of the adults.
- (e) Play activities should be encouraged.

The brief report on Case B illustrates how a child may be functioning intellectually at borderline level with accompanying factors that make special-class placement advisable.

REPORT OF CASE B

Name: John L.

Age: 7-4

School: X

Grade: 1

Problem. John was referred for study because his age, inferior work, and behavior suggested the need for psychological study.

Psychological data. At seven years and four months John had a mental age of five years, eight months, and an intelligence quotient of 77, as determined by performance on the Stanford-Binet Scale. A

specific handicap in immediate memory was apparent, as he failed a memory test at the three-year level. His greatest success was along lines of language ability. His response in the descriptions of pictures came up to expectations for the seven-year level. One outstanding feature of the examination was the unevenness of ability it indicated—failure in a test at three years, a success at seven years, and an accompanying inability to attend to any one thing for more than a few moments at a time.

In picture completion and form board tests, he was impulsive and lacked persistence. On the Gray Oral Reading Test, he did not recognize any of the words. He was unable to write his name.

School progress. John had attended kindergarten one term and first grade three terms. The teacher reported him as able to do only kindergarten work.

Social and personality traits. During the examination he was very friendly; he wanted to play with the materials and was in a very talkative mood. He gave the impression of being likable and suggestible. The teacher described him as "sullen, bold, cruel, destructive, mischievous, excitable, deceitful, quarrelsome, moody." He was reported by the teacher as developing habits of smoking, masturbation, and truancy. The mother reported that he frequented the streets with many older boys who had taught him to play craps, and also that he had stolen in the home.

Physical condition. He was small for his age, his height being only 42 inches—the average of a five-year-old boy. His health history showed mumps and measles at the respective ages of three and four with no recorded aftereffects. The school nurse reported that tonsils and adenoids had been removed two weeks previously and that the boy had been circumcised. He had a slight lisp.

Supplementary information. The family lived in a clean, comfortably furnished home over a store, in a city block in a neighborhood that was rated below average. The stepfather did piecework in a piano factory and the mother kept house. The mother was not willing to talk about John's early history or about his father. The boy was an illegitimate child born when the mother was fifteen years old. The mother had a three-year-old girl and a two-year-old boy by her husband. The boy was shabbily and carelessly dressed in contrast to the other children. The mother was young, vacillating, nervous, and became easily upset. She was exceedingly fussy about the house at the expense of her own strength and the children's freedom. She was anxious to have the child behave, but admitted that she had no control over him. She made a great deal of his bad habits. The mother said that the stepfather thought John was a bad boy, but was not very severe with him. The mother was willing to cooperate with the school.

Summary and recommendations. The study suggests a slow child whose difficulties may be partly due to retarded physical development,

unwholesome environment, and to undesirable habits that he is developing. An examination at the neurological clinic at the H. Hospital was arranged and the findings were negative. Although the boy is young and has an I.Q. of 77, a period of observation and trial in a special class is recommended to determine how serious the situation is from the standpoint of both retardation and behavior. Further study of the parents' attitude toward the boy is advised, since one of the major sources of the difficulty may lie in the child's feeling of insecurity in the home.

The boy's interests and energies should be directed into wholesome channels in both out-of-school and in-school time. On the basis of his performance on the Stanford-Binet test, John is not yet ready for reading. Excursions, stories, dramatic play, rhythms, games, drawing, and construction should be given to develop experiences for a reading background. Time for free play should be provided, also, so that the teacher can observe his interests and behavior.

While the reports on Cases A and B are illustrative of the early recognition of the retarded child, the report on Case C is typical of the child who comes late into a school system.

REPORT OF CASE C

Name: Sarah S. Age: 13-2 School: Y Grade: 6

Problem. Sarah was recommended for study because she was not succeeding in a sixth grade, having entered the city system from a small-town school.

Psychological data. At thirteen years and two months of age she had a mental age of nine years, with an I.Q. of 68, as determined by performance on the Stanford-Binet Scale. She failed tests in rote memory and comprehension. She was unable to make simple change. Her best successes were in tests involving language at the ten-year level.

In the Cornell-Coxe Performance Ability Scale she rated a performance age of nine years, three months. She showed limitations in planfulness, dexterity, and persistence.

On the Gray Oral Reading Test, she read as well as the beginning grade 4.0 pupil.

On a local arithmetic test she reached the median for the third grade. She was weak in multiplication, division, and problems.

On local spelling tests she succeeded at the 3.5 grade level.

School progress. Sarah did not enter school until she was eight, because of broken home conditions. She spent one year in the first grade, one year in the second, repeated the third, and had had one year in the fourth grade. Since the third grade, her work had not been

satisfactory. She had been in the sixth grade in the city system two weeks and the teacher said she was able to do only second- or third-grade work.

Social and personality traits. The teacher described her as "active, happy, sensitive, inaccurate, excitable, and poor in application, adaptability, and practical judgment."

During the examination she was cheerful and at ease. She talked freely and had no comprehension of her limitations. She seemed socially immature. The mother spoke of her as sometimes appearing like a seven- or eight-year-old child. She stated that she played happily with younger children, but liked girls of her own age. She stated also that she showed a good disposition in the home and was willing to help.

Physical condition. The child looks physically immature, but otherwise appears healthy. There are no physical defects noted on the medical card. The mother thinks of her as being well and healthy. She reports the habit of enuresis in the child, but is not concerned about it, as she says that she had the same trouble until she was fourteen years of age.

Home and family. The family was living in a single house in a fairly good neighborhood. The house was not yet fully settled, as the family had just moved to town. There were, however, evidences of poor housekeeping although the furniture and the equipment seemed adequate. The mother, a woman of about average intelligence, kept house and was in her eighth month of pregnancy. The stepfather had had a steady job for twelve years on piecework at the Kodak factory. Six months before this investigation he had been laid off and had had no steady work since. The family was worried over its economic condition. Sarah's own father had died when the child was about six years old and the home had been broken up for a time. There was one baby, ten months old, in the second family.

Developmental history. The mother stated that Sarah's birth and early development had been normal. At one and a half years of age, the child had had serious intestinal trouble for about four months. At no time had she had any convulsions or fainting spells. She had from the beginning been an enuresis problem.

Summary and recommendations. The study suggests a slow learner with a late school start who is not living up to her mental ability after five years of school experience. Sarah will benefit from special-class placement. The smaller group will help her develop her language and number abilities in a practical way. She needs to experience a feeling of achievement in school and home situations. Specific help should be given in homemaking that Sarah can carry over into the home. She should be referred to a clinic for study and treatment for enuresis. After the family has had time to settle, further follow-up study may be needed in the home to discover whether or not the family should be given help in their present emergency.

Such complete studies of health, intellectual functioning, achievement, environment, and personality as these three just reported are needed in selecting individuals for placement in special classes. These reports serve to suggest the individual nature of the problems that the teacher will meet in a special-class group. They call attention to the fact that each child is an individual whose personality is the result of all of his heredity and environment, and whose education must be an individual thing based on the significant findings in his particular case.

Analysis of the case studies reported tends to focus attention on the individual nature of each problem and suggests the treatment needed. There is the common element of retardation in all the instances, but other elements differ. To accept the three pupils assigned to special classes merely as retardation problems without a knowledge of other conditions would not adequately meet the situation for any one of them.

Home conditions vary for each. For example, with Case B, John, the home and neighborhood conditions are socially and morally unfavorable. Undesirable behavior tendencies are evident in the child's conduct. The parents in this case may not be able to cooperate very intelligently with the school or social agencies in establishing the right attitudes toward John's behavior and in aiding the child to change his habits. The understanding teacher will realize that, in this case, her home contacts must be frequent to help the parents give the boy a feeling of security and to develop wholesome interests as a substitute for undesirable ones. More information is needed in regard to the home relationships and economic conditions of Case C, Sarah, to determine what help, if any, the family needs. The teacher will have to work with Sarah and with the home for a time to gain a better understanding of the "whys" of Sarah's problems.

The physical conditions of the three children also differ. Case B, John, is physically immature. Further study of his physical condition is recommended to determine a possible physical basis for his condition. The total picture of Case C, Sarah, suggests physical and social immaturity with evident unconcern on the parent's part. There is need here for study and treatment of enuresis.

The school has a longer period in which to guide the development of Case A, Beth, and of John, Case B. On the other hand, Case C, Sarah, is a thirteen-year-old girl with only three to four years more of school life before her. She has spent most of her school days in a school environment unadjusted to her needs. She needs help to develop socially, to achieve the best she is capable of academically, and to acquire a background of practical experience of homemaking and holding a routine job.

In summary, the three case studies indicate the psychological study and evaluation that is necessary in identifying pupils in need of a special program. Moreover, they are valuable in determining the kind of guidance and educational treatment needed by the individual, and in periodic re-evaluation.

Questions and Suggestions for Study

1. Discuss at least two other reasons than those mentioned for making as thorough and as objective a study as possible of pupils placed in special classes.
2. Describe in detail the school achievement and behavior of three retarded children whom you have had in a regular grade.
3. List all the problems you can think of that arise in the behavior of children in the classroom. How many of these problems do you think may be the result of misplacement due to retardation? Give an explanation for your answer.
4. Analyze and discuss the type of information that is provided for in the school history form illustrated in this chapter.
5. Under what conditions, if any, might the medical examination be omitted at the time of examination to determine special-class placement? At the home visit?
6. Which is preferable, a history record in the form of a continuous series of statements or one taken on a prepared record form? Discuss the advantages of each.
7. Discuss the advantages of such case studies as those described for any school child who presents a problem.
8. What effect are such studies likely to have on the teacher's methods?

Reading References

- ARTHUR, GRACE. "Some Factors Contributing to Errors in the Diagnosis of Feeble-mindedness," *American Journal of Mental Deficiency*, 54 (Apr., 1950), 495-501.

Children with sensory handicaps, with special subject disabilities and maladjustment diagnosed as mentally deficient, benefited from educational treatment up to twenty-one years and functioned in the dull-normal range on intelligence tests.

BLANCHARD, PHYLLIS. "The Interpretation of Psychological Tests in Clinic Practice." (*Readings In the Clinical Method in Psychology*, ed. Robert L. Watson.) New York: Harper & Bros., 1949, pp. 349-65.

Discusses the need for interpreting tests as measurement of the mental functioning at any given time, and includes case citations to illustrate this premise.

BOWER, ELI MICHAEL. *The School Psychologist*. *Bulletin of the California State Department of Education*, 24 (Nov., 1955), pp. 10-89.

Presents the function of the school psychologist, individual assessment, the use of projective techniques, the case conference, the psychological relationship with teacher and parent, and California State credentials for the school psychologist.

CUTTS, NORMA E. (ed.). *School Psychologists at Mid-Century*. Washington, D.C.: American Psychological Association, 1955, pp. 30-86.

A reference for the administrator, supervisor, teacher, or student who wants to be informed on the work of the school psychologist.

DOLL, EDGAR. *The Measurement of Social Competence: A Manual for the Vineland Social Maturity Scale*. Philadelphia: The Educational Test Bureau, 1953.

The Vineland Social Maturity Scale widely used in the study of mentally retarded children extends from infancy to twenty-five years in the areas of self-help, self-direction, locomotion, communication, occupation, and socialization.

HEFFINGER, LUCY M. "Psychological Services in the Division of Education for Exceptional Children," *Educational Press Bulletin* (Springfield, Ill.: Superintendent of Public Instruction), Sept., 1958, pp. 5-13.

Describes the plan of psychological services in Illinois and their availability to the local school systems through the chief psychologist of the district area.

LOUTTIT, C. M. *Clinical Psychology of Exceptional Children*. New York: Harper & Bros., 1957, pp. 47-81.

Gives a comprehensive presentation of the various tests and other tools that are used in clinical psychological testing of children who deviate.

NEWLAND, T. ERNEST. "Are Exceptional Children Assessed or Tested?" *Exceptional Children*, 19 (Nov., 1952), 51-55.

Testing the intelligence of children to derive an I.Q. does not answer the problem of psychological diagnoses and evaluation of the child. Many factors influencing behavior in the particular child must be studied and evaluated.

Problems in the Differential Diagnosis of the Etiology of Mental Deficiency. Springfield, Ill.: Superintendent of Public Instruction, 1952, pp. 9-19, 33-49, 75-90.

A symposium for qualified psychological examiners in the Illinois program, presenting the status of differential diagnosis and problems related thereto. Discusses brain injury, cultural factors, and problems with personality deviations.

SARASON, SEYMOUR B. *Psychological Problems in Mental Deficiency.* New York: Harper & Bros., 1959, pp. 222-30, 242-50, 261-62.

Discusses projective techniques, and the Rorschach test, its value and its limitation in diagnosis of the mentally retarded.

"School Diagnosis of the Mentally Retarded: Symposium," *Training School Bulletin*, 52 (Jan., 1956), 215-36.

Four experts discuss desirable practices in a teamwork approach to study, diagnosis, interpretation, and reporting of data for school-age retarded children.

THORNDIKE, ROBERT L., and HAGEN, ELIZABETH. *Measurement and Evaluation in Psychology and Education.* New York: John Wiley & Sons, Inc., 1955, pp. 202-4, 267-95, 400-18.

Presents standardized tests of intelligence or scholastic aptitudes, standardized achievement tests, both survey and diagnostic, and describes various projective techniques as a tool of the clinical psychologist.

9

Guidance for Retarded Children

The special class, with its comparatively small number of pupils, striking individual problems, and peculiar challenge to aid the development of each member to his very fullest capacity, provides an educational laboratory for observing, studying, interpreting, and guiding the development, behavior, and physical well-being of children.

Here the teacher may make a careful study of each child in his classroom environment. She will observe carefully his reactions to her, to other children, and to materials and activities as she aids him to find the group of which he can best become an integral part, arranges work that is suited to his ability, provides proper materials for play and for construction, suggests responsibilities that he may assume, and encourages him to participate in various sorts of activities. She will, of course, find out still more about the child by visiting his home and neighborhood to observe conditions there firsthand and by observing his behavior on the street and on the playground. The "why" of favorable and unfavorable reactions in many instances is explained by the psychologist's and health service reports; these the teacher will also study thoughtfully. For only as she comes to understand the factors operative in the child's behavior is she able to guide his development and to create situations that will encourage sound health and wholesome habits and attitudes in general.

As was suggested in the preceding chapter, certain physical conditions may need medical attention or corrective training, conditions and attitudes in the home may need changing, and outside companionship and the use of free time may require re-direction. Any such needed change in the child's health and out-of-school environment is as essential to his wholesome development as are the methods and environment of the schoolroom.

By recording from day to day and from year to year her observations, her treatment, and the outcome of her efforts with various individuals, the teacher may build up a record from thoughtful analysis of which she may acquire a valuable background of child understanding. From this she may learn to recognize problems and to treat with ever increasing success various kinds of behavior. From this reliable background of understanding based on thoughtful analysis of actual experience, she may learn to provide effective help at all levels of social development and of learning ability.

Classroom Conditions

Among the first considerations for every child is health. If the child is not in good physical condition and if conditions in the classroom are not healthful, the teacher can hope to effect little real improvement in his attitude or accomplishment.

It is important for every teacher to understand the essentials of a healthful classroom if she is to make her fullest contribution to the encouragement of health in her pupils. Certain of these essential elements are provided for in the following suggestions to teachers concerning the responsibilities they should assume and the ways of meeting them.

1. Air movement, temperature, and humidity have a marked effect on comfort and on physical and mental energy. In so far as *is within your control*, be sure to see that the ventilating system is supplying clean air without drafts and in adequate quantity to eliminate odors. Notify the proper responsible person when it does not. The ordinary thermometer alone does not indicate whether the atmospheric condition in a room is within the comfort zone. Attention should be paid to the simultaneous control

of temperature and humidity. For winter conditions, a temperature of 68 degrees Fahrenheit and 60 per cent relative humidity is ideal. When a lower humidity is maintained, a higher temperature is required for equal comfort. Temperatures between 72 and 68 degrees, with relative humidities between 40 and 60 per cent, respectively, are recommended for classrooms.

2. Adequate lighting means eye protection and assures increased ease in all schoolwork that demands use of the eyes. If possible, test with a light meter the amount of light in the classroom on days that differ in natural light intensity, and then determine the best position for seats, reading tables, workbenches, etc. The minimum intensity for light on desks and chalk boards is twenty to fifty foot-candles. The light should come from above and behind the left shoulder. The seats should be placed at an angle of about thirty degrees with the windows. In no case should the teacher or pupil face the window. Diffusion or scattering of light is taken care of by the use of the window shades and of artificial lighting. The areas of greatest light intensity should not be occupied by cupboards, plants, etc., but should be used by the children for eye work. All chalkboard work should be plain and distinct. Light walls and furniture without gloss should be washed regularly to insure maximum reflection of light.

3. Desks should be adjusted to the height of the individual pupil so that the sitting posture is healthful and comfortable. Writing and reading positions must not require stooping. If desk tops are not adjustable at different angles, adjustable study stands should be purchased or made as industrial arts projects. Good reading position requires that the material should be at an angle of 45 to 70 degrees with the back, and at a distance usually from fourteen to eighteen inches from the eyes. Relative position of material and eyes should be adjusted by moving the work, not the eyes.

These three factors in good reading position must be flexible enough for the pupils to make adjustments for their own particular needs. These will vary according to the intensity of light, the height of the pupil, and the requirements of his eyes. No

fixed angle, distance, or height is suitable for every individual, any more than is one pair of glasses.

School Health Services

There is increasing realization that schools have a special responsibility in recognizing the individual health problems of all children. More and more school systems assign a physician and a nurse who are responsible for physical examinations, cumulative health records, and health consultation with parents and teachers.

The tendency is to recommend the physical examination of all children at school entrance or just prior to it, and every three or, at most, four years thereafter. Annual screening of sight, hearing, and posture is recommended. In the intervals between periodic examinations and screening, teachers are counseled to note any deviation from a normal, healthful condition and to discuss it with the physician or nurse. The conference method in which physician, nurse, principal, and teachers discuss health observations of individual children and select children for medical referral is a valuable means for increased understanding of child health. Nurse-teacher conferences on individual cases and general health problems of children offer like opportunity.

With the present emphasis in public health on the whole personality of the child in the family, school, and community setting, the special-class teacher will have many opportunities for co-operation with school health services.

Responsibilities of the Teacher

The maintenance and improvement of the child's health with reference to acute or chronic disorders should be the teacher's concern, in cooperation with the school health service and the family. The special-class teacher is in a particularly advantageous position to give such assistance because of the relatively small number of children in her class and because of the close contact she has with their homes as a result of the responsibility she assumes for following up her classroom efforts.

There are certain habits and attitudes that the teacher must develop if she is to cooperate effectively in the prevention and correction of physical impairments. A brief summary of these is given here. In considering them, the teacher must keep well in mind that her health work should be more *preventive* than remedial.

1. Know the personnel of your health service, the plan of physical examinations, screening procedures, pupil referrals, conference methods, parent follow-up, and health records. Be familiar with the child health services, both public and private, that are available in your community.

2. Familiarize yourself with the child's condition through a study of his health record, including the family health history and the current recommendations of the health examiner.

3. Learn to observe signs of illness in the child's appearance or conduct and watch for signs of acute disturbance that require immediate attention. Be alert to detect any of the following signs of acute health impairments; if the child displays any of these, he should be referred immediately to the school health service.

Unusual color—pallor, flush. Unusual warmth of skin, suggesting fever.

Eruption, rash, or sores of any kind on the face, neck, chest, or arms.

Running nose—watery discharge or thick nasal discharge.

Red or running eye, sties.

Ear discharge or earache.

Swollen glands of the neck.

Sneezing or coughing.

Sore or inflamed throat, unusual redness near tonsils and uvula, swelling or redness of the tonsils, or a coating of the tonsils with gray or white membrane.

Noticeable circles under the eyes, and the other signs of fatigue.

Any other distinct change from the usual appearance and behavior of the child.

4. Always be on the alert for evidence of impairments that may be chronic. These should be given the earliest possible attention. Throughout your daily contacts with the children,

always be sensitive to symptoms of any of the following conditions. Make note of your observations.

Sensory defects. Visual defects are likely to be suggested by a forward bend, tilt, or twist of the head, by poor posture in reading, refusal to work, failure to concentrate on work, reading difficulty, eyestrain, irritability, or headaches. Some of the defects lying behind these symptoms are strabismus ("cross-eye"), myopia (nearsightedness), hyperopia (farsightedness), and astigmatism (imperfection in shape of eye). Auditory defects may be suggested by a dull, unresponsive attitude, daydreaming, turning the head to hear, discharge from the ear, or pain in the ear.

Malnutrition is commonly suggested by listlessness, fatigue, poor posture, lack of vitality, and failure to gain steadily in height and weight.

Tuberculosis. No obvious beginning signs of tuberculosis are commonly manifested in young children, but deviations from ordinary growth in size or signs of undue lassitude should cause suspicion and suggest a tuberculin test. If a child shows any such tendencies, signs of obvious tuberculosis in other members of the family should be looked for to determine if the child is or has been in contact with one who is actively tubercular.

Obstructed breathing. Open mouth, listlessness, and indistinct speech usually indicate an obstruction at any point from the tip of the nose back, such as polyps, enlarged tonsils or adenoids, or deviated septum.

Faulty body mechanics may be revealed in various abnormal positions of the head, shoulder, spine, abdomen, knees, and feet. Faulty coordination may be revealed by hand movements that are clumsy or limited in range, by an incorrect walking position, by feet that are flat, pronated, or have fallen arches.

Cardiac impairments show themselves in an excessive tendency to fatigue, breathlessness, especially with exertion, and, sometimes, in a bluish color of the lips and skin.

Focal infections, such as diseased tonsils and adenoids and diseased teeth, can rarely be recognized by the teacher.

Abnormal endocrine conditions are usually revealed by a marked deviation in growth, sluggishness, nervousness, and hand tremors.

Nervous conditions may be manifested by symptoms of chorea or convulsive disorders. Chorea shows itself in involuntary and purposeless twitching of the head or facial or arm muscles, and in poor coordination. A convulsive disorder or epilepsy may be accompanied by irritability, slight lapses of consciousness, and in some instances by convulsions, preceded or not by aura.

Allergies, of which asthma is the most frequent, have symptoms of wheals, sneezing, coughing, and shortness of breath.

Diabetes mellitus may be manifested by the symptoms of frequent urination and hunger for candies and sweets.

5. Consult the school health service when the child is responding abnormally—when he shows, for instance, listlessness and indifference, nervousness, flightiness, or irresponsibility, or is making unsatisfactory progress. There may be a physical cause for his behavior, or the cause may be psychological.

6. Where physical impairments have been cared for and observable improvements in general response, behavior, and appearance do not appear, look for other deterring factors that may be operative.

7. Wherever there are permanent impairments, like progressive eye trouble, defective hearing, or a cardiac or orthopedic condition, medical service should be available. The teacher should have a physician's advice so that classroom conditions may be arranged and habits established that may prevent further impairment. In case the impairment is irremediable, there is also need for securing the physician's advice in arranging classroom conditions and establishing habits that will minimize strain as much as possible.

8. Discuss with the school health service all group and individual health needs of the class. Attend conferences called to discuss individual pupils. Secure professional advice in health matters and keep all health facts at hand for ready reference.

9. Know the home of each individual child. Know the attitude of the family toward questions of health. Know whether the family health service comes through a family physician or through a clinic.

10. Share your knowledge of the family circumstances, attitudes, and any other factors with the school health service. Sometimes repeated family contacts are necessary before cooperation is obtained. In such cases consultation with the parents may be helpful since the home visit can afford an opportunity for the parent to consider the health recommendations from the teacher's point of view. Such visits should always be carried out with the knowledge and cooperation of the nurse.

11. Be aware of conditions such as eye defects, impaired hearing, cardiac conditions, and so forth, that require periodic examinations, and cooperate with the school health service in any necessary follow-up.

RECORD OF PHYSICAL FOLLOW-UP

School..... Class..... Term Beginning..... Ending.....
Teacher

NO.	NAME	DATE OF EXAMINATION	DOCTOR'S RECOMMENDATION	DATES OF FOLLOW-UP	CHECK COMPLETE	SERIOUS DEFECTS AND TREATMENT

Fig. 3. Form for Teacher's Running Record.

In order to secure results, there must be constant vigilance and effort on the part of the teacher who meets the child daily. Each special-class teacher should fill out a form such as is shown in Fig. 3, and keep it on her desk as a constant reminder of pupil needs and of her part in physical corrections and adjust-

ments that may relieve physical strain or remedy unhealthy conditions. She also should attend carefully to daily follow-up, noting cleanliness and other matters, as well as any of the symptoms already listed. The teacher should see to it that rest, nutrition, and exercise are properly provided for in the program of the school day. Maintaining physical fitness becomes an enterprise of chief importance in every classroom.

Illustrative Case Studies

The following case studies indicate the results that may be obtained through the cooperation of the special-class teacher. The first is of a case in which considerable time elapsed before remedial treatment was started. When treatment was finally initiated, it was largely due to the efforts of the special-class teacher. Her attention to such matters as those that have already been outlined here was directly responsible for much of the improvement that came about. Case B illustrates how one special-class teacher, by giving thoughtful consideration to the child's health condition as a possible factor in his negative behavior, helped in the solution of some of his problems. These two cases are illustrations of what can be done through the cooperative efforts of the school health service and the teacher.

Report on Case A. Joe, six years of age, was attending a preprimary class. He had been in school three terms and was only just beginning to talk. It seemed likely that mental and social immaturity might be attributed to his general physical condition and an apparent hearing defect. The psychologist therefore recommended that he remain in the preprimary class and that he be given a complete physical examination, including a check of his vision and hearing.

Two weeks later, a physical examination was made, resulting in the following recommendations: "See eye specialist. Throat care needed. Dental care needed. Better nutrition needed. Test hearing." The mother, who was present at the examination, seemed willing to cooperate. The school nurse arranged appointments at various clinics and the mother was given appointment cards.

Six months later, the child was seen again by the psychologist. Nutrition had improved and he appeared to be in better condition physically; but his eyes, ears, and throat were still uncared for. The nurse stated that the mother had not taken Joe to the clinics. Defective speech was now noticeable, and inattention resulting from loss of hearing was becoming apparent.

Consideration of placement in a primary special class was recommended at the end of the term.

Four months later, Joe was placed in a primary special class. No further physical corrections had been made. The teacher noted that the child was very pallid and that he turned his head to the right when he was trying to hear. She was aware of the former recommendations that had been made. She consulted the school nurse concerning the problem and concerning the family's attitude. She visited the home and helped the mother to understand the need for care; as a result, Joe was admitted to the out-patient department of one of the local hospitals. Their report was as follows: "Weight normal; posture poor; because of suspicious signs in lungs, test for tuberculosis was given but proved negative; hypertrophied tonsils and adenoids removed, satisfactory convalescence. Diagnosis of chronic otitis media, right, with defective hearing. Ear condition to be treated regularly at clinic."

The hearing test at the school showed 35 per cent loss in the right ear and 20 per cent loss in the left ear. Joe was seated advantageously, and auditory training and speech-reading at school were arranged for.

Two months later, Joe's eyes were examined and glasses were fitted. His teeth were taken care of at the dental dispensary.

Four years later, the records showed a yearly check on eye, ear, nose, and throat conditions. He had had speech-reading and speech instruction from a special teacher. The instruction was being continued by the special-class teacher. His speech had improved except for carelessness about word endings, especially the final *s*.

Although Joe was innately slow-learning, he improved noticeably. At the age of eleven years he read material of grade 3.5 difficulty readily; he had spelling ability sufficient for simple let-

ter-writing, record-keeping, and so forth. He could add, subtract, and multiply, and could apply these skills. He enjoyed constructive work and showed fair skill in it. He was a happy, cooperative member of his school group.

Report on Case B. James, aged ten years and one month, was recommended by the teacher for study because of instability and retardation in reading. The teacher stated that he was nervous, excitable, had poor memory, poor coordination, and slow mental reactions. The home conditions showed a neurotic, unstable mother who had no control over the child and was away from the home all day at work.

The psychological examination showed an I.Q. of 75 with sufficient retardation and unusual behavior for special-class placement. The only recommendation on the physical examination was for dental care.

After placement, the teacher noted a continued inability to adjust to others, irritability, quarrelsomeness, and nervous mannerisms suggesting chorea. She wanted, first, to find out if there was any physical cause for the behavior. The child balked at seeing a doctor, and repeated contacts with the mother showed that she had no power of suasion. After the child felt secure with the teacher, the teacher and the school nurse succeeded in getting him to go to the dental dispensary. He was given also a thorough pediatric examination. As a result, his nose and throat were operated on and he was circumcised. A special Wassermann test showed negative results. Examination and observation were made at a neurological clinic. The child was given medicine, and arrangements were made for midmorning and midafternoon pints of milk, and for an afternoon rest period in school. Not until she realized that these health measures were improving the boy's attitudes did the mother cooperate in the matter of diet, rest habits, and treatment.

Development of Habits and Attitudes

The special class from its very beginning has recognized the importance of developing, insofar as possible, emotional stability and normal reactions in the mentally retarded child, although

early attempts in this direction were not made in the light of all that is now known in the field of child development and mental hygiene. It is generally recognized that the development of social habits, attitudes, and emotions is important, and that this development should not be left to chance but must definitely be planned for.

This principle is particularly applicable to the education of pupils in special classes. Briefly stated, some of the mental-health needs of the mentally retarded child which can be met in the school are (1) the need for success and achievement, (2) the need for recognition and approval from others, (3) the need for belonging to a group, (4) the need for activity and new experience, and (5) the need to face reality.

Certain elements in the school setting have their effect on these needs and upon the emotional well-being of the child. There is, first, the teacher-pupil relationship in which the child is accepted for what he is and helped to experience success from day to day. Second, there are the social and working groups of which he is a part. The special class affords participation without unfair competition and provides for the recognition of achievement. In this atmosphere, the child's efforts and contributions are accepted by peers as well as by adults. He becomes a worthy group member. School committees, assemblies, games, and so on, afford recognition and acceptance in the larger school group. Third, varied activities in the special class stimulate new interests for the child and help him develop his abilities. His needs for exploration and activity are therefore satisfied.

In the school environment that affords the opportunity for acceptance, achievement, and belonging, the child will grow toward social maturity. The behavior traits described in the statements immediately following indicate development toward this goal. In these statements, terms descriptive of general behavior are analyzed into the specific elements involved.

Cooperation

Is willing to do his share when the group is working together.

Realizes that the success of a group undertaking depends on each member's doing his best.

Assists others when they need help.

Works well with leaders.

Is attentive to work at hand.

Is willing to put aside an individual preference for the good of the group.

Self-Confidence

Is willing to try new things.

Is willing to discuss with others how well he has done a thing.

Explains to visitors what he is doing.

Is interested in showing his accomplishments to his classmates, to other school members, and to his family.

Dependability

Keeps at his work steadily without constant stimulation from another.

Takes and returns notes from home when requested. Satisfactorily completes a duty that he undertakes, such as sweeping, dusting, caring for plants, acting as traffic officer, waiter, assembly usher, and so forth.

Goes on errands promptly.

Friendship and Sociability

Likes to be with other children.

Tells others about his play and his work.

Has play friends.

Enjoys cooperative work and play.

Shows wholesome interest in the other sex.

Cheerfulness

Realizes that individual good humor contributes to the cheer and happiness of the group.

Is a good loser in games and sports.

Does what is expected of him cheerfully.

Accepts criticism cheerfully.

Has fun with other children.

Courtesy

Displays an attitude of courteous consideration of others in the classroom, the school corridors, the school assembly, the clinic, and so forth.

Perseverance

Keeps at a task until it is finished.

Wants to complete his task satisfactorily.

Is willing to try again to achieve a satisfactory outcome.

Generosity and Unselfishness

Shares articles and experiences with other children.

Shares "turns" in games or activities.

Is interested in making things for others.

Cares for stray animals.

Shares time; helps with tasks at school and at home willingly and cheerfully.

Is tolerant and understanding of the successes and limitations of others.

Honesty and Truthfulness

Is fair and honest in play.

Is fair and honest in work.

Acknowledges when he has done something wrong.

Returns or reports found articles.

Can be trusted with another person's articles and money.

Some simple rules for the teacher to observe in building such habits and attitudes may be very briefly suggested here.

1. Provide an environment conducive to good behavior—well-ordered regularity in routine, suitable work and play, wise teaching guidance. Chapters 11 to 18 of this book discuss in detail conditions that will promote desirable social habits and attitudes.

2. State verbal directions and suggestions effectively, making them positive, definite, and short enough to be understood. Learning difficulties often lie in the fact that the teacher does not realize that the child does not understand. Emphasize and repeat what the child is to do rather than what he is to avoid.

3. Be sure that the child understands what he is striving for. He must understand that behavior is not made up of vague qualities suggested by the words "good," "bad," "polite," but of habits that he is developing in terms of specific actions. "Self-control," "courtesy," etc., have no meaning for the child until he has associated numerous specific behavior habits with these terms.

4. Associate satisfaction in the child's mind with having acted in a desirable way. Approve desirable behavior. Avoid finding fault with what is insignificant. Know when to overlook things.

5. Associate dissatisfaction with undesirable tendencies by letting the child take the consequences of his acts, by withholding approval, or withdrawing a privilege.

6. Provide many situations where the desirable tendency can function. Showing the child what is right, without giving the opportunity for practice, is of little avail.

7. Learn to understand the "why" of behavior for each individual child. Give the aggressive child an opportunity to release his feelings through expressive media, such as finger painting and clay modeling. Accept and try to understand the feelings of the child by listening to him. Avoid placing blame.

8. Talk things over with the children, let them express themselves freely and arrive at decisions on what constitutes acceptable conduct.

9. When study and effort on the part of the school have been expended in helping the child to overcome undesirable behavior and it still persists, the matter should be referred to a child guidance clinic.

Adjustment Between School and Home

The teacher finds the explanation of much of the child's behavior in the home and neighborhood conditions. The hygienic and economic conditions in the home, the mental ability of the parents, their emotional control, their interest in the child's welfare, their ambition or lack of ambition for him, their moral values—all vitally affect the child's development. The environments of slow-learning children vary as those of other children from the home that gives the best of care and training to the home deprived of physical comforts and parental affection and nurture. Where undesirable home conditions are present—crowded quarters, lack of privacy, no place to play, poor household management, lack of regularity, overworked, irritable parents, or fearsome parents—there are correspondingly few opportunities to practice desirable habits. When the social standards of foreign-born parents are at variance with American practices, the slow-learning child is at a loss to understand what is

expected. There may, of course, exist favorable conditions along with unfavorable ones. In the case studies cited in the previous chapter there is evidence of a variety of such favorable and unfavorable environmental influences. The degree of individual educational success will depend on the teacher's taking account of these various influences as she guides and teaches each child from day to day.

The teacher's contact with the home should be frequent, to enable her not only to understand the child better but also to (1) interpret the school and its purpose to the home, (2) aid the development of desirable family attitudes toward the child, (3) secure, if possible, cooperation of the home in the development of habits, attitudes, and appreciations in the child, (4) discover serious home conditions that should be investigated, and (5) offset in school some of the inadequacies of the home.

The teacher should interpret the school and its purpose to the home in a sympathetic manner. She should approach the home or the parent in a spirit of friendliness, helpfulness, sympathy, and cooperation. Her contact should supply a warm human relationship that will make for mutual confidence and cooperation among parent, child, and teacher. This home contact affords an opportunity to help the parents realize that the teacher's chief concern is the well-being and progress of their child. If the teacher succeeds in securing the parents' confidence in and cooperation with the school's efforts, the possibilities for the child's satisfactory adjustment are greatly increased.

The attitude of the various members of the family group has a profound influence on the child's personality. Often the slow child does not have a feeling of security in the home because of the family's failure to understand why he does not respond like other children. He may be characterized at home as "careless," "lazy," "dumb," or "perverse," compared unfairly with others, and nagged or scolded unreasonably. As a result, he feels out of harmony and insecure in the family group. It is particularly important, therefore, that he should experience success in school and that he should have contacts with a teacher and classmates who can give him a feeling of security. But the special-class

teacher should also counsel in the home. As the teacher interprets the child's ability to the parents, helping them to understand the reasons for his slowness and to recognize his assets, an attitude of faultfinding on the part of the family may often be changed to one of understanding and appreciation. When the parents see the results of continuous careful daily work under close teacher guidance, they can better appreciate the child's efforts and his progress, however slow it may be. Where they continue to be exacting and intolerant, the wise teacher is doubly conscious of the school's part in offsetting this inadequacy.

The more unified the effort of home and school, the better from the standpoint of the child's development. It is difficult for the child to be obedient, cooperative, and trustworthy if home and school are setting up conflicting standards and stimuli. He may try to please one and disregard the other, or become discouraged and try to please neither. Hence, it is important that school and parents should be agreed on what they expect from a child. It will be well for them to define and agree on such definite standards of conduct as coming to school clean and on time, bringing lunch money once a week, banking regularly in the school bank, attending the clinic, attending the library story hour, getting the required amount of sleep each night, watching weight, keeping track of the diet for a week, and so on.

The wise teacher who knows the home knows the degree of cooperation that may reasonably be expected from it. In some instances she will be aware that all she can hope for is the parents' approval of the aims of the school. She will know that she must be largely responsible for carrying out desirable plans.

When the teacher finds in the home economic, hygienic, or moral conditions that she believes require attention, she should refer the matter to the proper authority for investigation. In her visits she should note any such serious inadequacies or harmful influences.

The school must consider itself responsible for providing as best it can an environment that affords any needed opportunities the home may fail to give, and for seeing that home conditions are bettered wherever this is possible.

Records and Their Value

The teacher who is trying to understand and to guide child development in the ways that have been suggested needs a method for recording effort and progress. She must keep notes on the physical care, home adjustment, educational progress, and so on, of individual children. Schools are recognizing the need for recording this kind of information in permanent and cumulative form for all children. Because of the long-recognized need for individual study of the mentally retarded, detailed records for this group have been kept by many schools for some time. These records are invaluable during the child's school life as an aid in interpreting the child's behavior and his accomplishments, in determining promotions to more mature groups and to types of prevocational training, and in determining in doubtful cases whether or not institutional placement is advisable. In afterschool life they may be an aid in occupational adjustment and in determining a suitable course of treatment if the child presents a social problem.

An informal method for keeping individual pupil records that will include (1) the teacher's yearly plan (see Fig. 4) for treatment of each child developed from an analysis of his needs, (2) a running record of actual treatment, development, and progress, and (3) a cumulative record on which the teacher can summarize from her plans and running record the pupil's progress year by year, is suggested here.

The teacher should review the yearly plan frequently and change it as needed. The running record may be kept by attaching to this plan form one sheet for each of the three phases of development outlined: (1) social and emotional, (2) physical, (3) educational. The teacher enters on these dated records of treatment, development, and accomplishment as the year progresses.

The cumulative record will consist of statements summarized at the end of each year from the running records of treatment and development under the three headings: (1) social and emotional, (2) physical, (3) educational.

TEACHER'S YEARLY PLAN

Name..... Address.....
 School..... Class..... Year: from to
 No. of terms of special-class attendance.....
 M.A. C.A. I.Q. Date of Examination.....

CHILD'S NEEDS

SUGGESTIONS FOR MEETING
NEEDS

- | | |
|--|----|
| 1. Social and emotional | 1. |
| a) Home and family relationships:
Consider kind of neighborhood;
hygienic, economic, moral, in-
fluences in home; attitudes of
family group; associates, | a) |
| b) Personality * | b) |
| 2. Physical: Consider size, growth,
impairments, habits of personal
care and health maintenance.* | 2. |
| 3. Educational: Consider develop-
ment in tool subjects, social con-
cepts and orientation, industrial
arts, play, and recreational inter-
ests.* | 3. |

Teacher Principal

* Refer to curriculum standards. Is child at, above, or below suggested attain-
ments for age level and ability?

Fig. 4. Form for Teacher's Yearly Plan.

Any method or plan for keeping records will be dependent on the local organization, the curriculum, and other conditions of the immediate situation. The items listed in the suggestions here do not constitute complete record forms, but are rather suggestive of how records may be developed to aid in interpreting and guiding the child's behavior and progress. The teacher will use them in consulting from time to time with her principal and supervisor, and also with any other persons working directly with the child, as to plans and progress. Dependent on the individual pupil conditions and problems, some records will be longer and more detailed than others. These plans and running records are to be considered the teacher's working sheets, and remain in the classroom. At the end of the year, the cumulative record may be filled out by the teacher and a copy forwarded to the principal's or supervisor's office.

As records of scholastic marks and grades give place to records that give a more complete and descriptive picture of child growth, it becomes necessary to devise satisfactory methods and forms for recording progress. Cumulative record forms present a special challenge, since they must be succinct but adequate, easily readable and easily comparable from year to year. Schools generally are experimenting in the matter of developing effective records.

Parents and children generally are interested in report cards. There are frequent parent queries about progress for an entering child. The parent of the child who is placed in a special class wonders about his progress and his marks. When the children are dismissed on report card day, the retarded child wants to carry home a report like the rest. Since it should tell a fair story for him, there will have to be modification or change in the regular report form. It should, however, be the same size, color, and format as those carried by children of his age level. Many report card forms use check lists to indicate satisfactory progress, unsatisfactory progress, or degrees of progress. These check lists cover not only the school subjects but usually include personal, social, and work habits. The special-class pupil can be rated according to his potential learning ability: Is he learning

as well as can be expected of him? Does he need to put forth more effort to achieve?

Administrator and teachers should agree on markings and content. Report cards thoughtfully made out by the teacher and supplemented by conference with parents at home and at school are generally acceptable to both parents and child. There will be the occasional disturbed parent who needs special consideration or counsel. With growing pupil confidence in the teacher, however, the child's acceptance and satisfaction with his report card grows and the indifferent or critical parent, in time, generally changes his attitude.

With such careful study, observation, and planning as is suggested in this chapter, the teacher develops a vital interest in child behavior, welcomes the stimulation that new problems bring, and grows in ability to meet individual needs. She then comes to view the classroom environment, the curriculum, materials, and methods that are discussed in the succeeding chapters as a means to the total development of the child, and worth-while only insofar as they originate in the needs of the child and contribute to his development.

Questions and Suggestions for Study

1. Caroline Zachry says, "Personality is an educational responsibility." Discuss this statement.
2. Why should the physical and mental well-being of the child be a prime consideration of education?
3. What plan would you make for follow-up work in regard to the health of your pupils if you were teaching in a small school organization that did not have a health department or a school nurse?
4. Describe what you consider an average home, an above-average home, a below-average home. Compare your descriptions with those of two other persons. Why is it better in attempting to give an idea of a child's background always to describe conditions rather than merely to rate a home as average, above, or below?
5. Discuss the teacher's approach to the home that will not admit that its child is slow.
6. What answer would you make to the teacher who says, "What is the use of making a home visit? I can find out more and all I need to know about the child's home and family by talking with the child as he is helping me after school."

7. Study and discuss the various record forms suggested in this chapter.

Reading References

Helping Teachers Understand Children. Washington, D.C.: Council on Education, Commission on Teacher Education, 1945, pp. 1-66, 275-315.

Describes modern procedures for studying child development. Presents: "What It Means to Understand a Child," "Seeing the Child as a Member of the Family," and "Studying the Interactions of Children in Groups."

DAVIS, PARKER. "Emotional Problems of the Retarded Child," *Training School Bulletin*, 48 (1951), 50-56.

Points out that certain fundamental needs of children must be met: a feeling of security, a feeling of belonging to the group, love and affection, training and discipline, recreation, and a goal in life and a sense of self-worth. Emotional problems of retarded children grow out of not having such needs met, particularly in the family setting.

HARRIS, L. M. "A Method of Studying and Treating Behavior Problems in the School-Room," *American Journal of Mental Deficiency*, 59 (Apr., 1955), 595-600.

Reports a research plan by a classroom teacher for exploring relationships between the teacher and the overt behavior of mentally retarded adolescent girls. A manual of pupil attitudes and traits, and evaluation sheet for recording the same, are described.

JERSILD, ARTHUR T., *When Teachers Face Themselves*. New York: Bureau of Publications, Teachers College, Columbia University, 1955.

States that teachers must understand and accept themselves as human beings in order to understand and help their pupils. This book is based on a study of responses from over a thousand teachers and students of education expressing themselves anonymously, and on interviews with a smaller number.

LAYCOCK, SAMUEL R. "Toward Mental Health for Exceptional Children," *Journal of Exceptional Children*, 16 (Feb., 1950), 136-38, 151.

The teacher's task is to guide exceptional children to live within the limits of their physical and mental equipment and to find satisfactory outlets for their needs through (1) human relationships, (2) work, (3) recreation, and (4) community service.

MACKIE, ROMAINE P., *et al. Teachers of Children Who Are Mentally Retarded*. (U.S. Office of Education Bulletin No. 3, 1957.) Washington, D.C.: Government Printing Office, 1957.

An analysis of competencies and preparation needed by teachers of the mentally retarded, based on opinions of experienced teachers, state and local directors and supervisors, and college instructors in education of exceptional children.

- MENNINGER, WILLIAM C., *Self-Understanding, A First Step to Understanding Children*. Chicago: Science Research Associates, Inc., 1951, pp. 1-49.

Discusses behavior patterns, attitudes of parents and teachers, and the manner in which these affect children's development. Chapters include: Structure and Development of the Personality; Recognizing and Getting Help with Emotional Problems; and Maintaining Good Mental Health.

- NEUBER, MARGARET A., and SNYDER, WILLIAM U. "Evaluating a Special Class in Terms of Personality Development," *Journal of Exceptional Children*, 13 (Feb., 1957), 135-40.

Discusses the need to evaluate the special-class program for its contribution to personality growth of the children; describes such an evaluation.

- WHEATLY, GEORGE M., and HALLOCK, GRACE T. *Health Observation of School Children* (2d ed.). New York: McGraw-Hill Book Co., 1956.

A guide for helping teachers and others to observe and understand the school child in health and illness; specific and informative as a reference.

- WHITE, VERNA. *Studying the Individual Pupil*. New York: Harper & Bros., 1958.

Procedures and techniques for individual pupil study and their value are discussed by a teacher who carried out such study; clearly stated with thought-provoking illustrations.

Part IV

Development of the Program at Various Levels

IO

Growth in Attainments

Before planning a program for the education of the slow-learning, it is important to have well in mind a general picture of what the members of this group may reasonably be expected to achieve at various periods in their school experience.

In this chapter the growth in educational abilities or attainments (developmental tasks) that may be expected from children at these same age levels will be outlined. The information, attitudes, habits, and skills indicated here as "attainments" are those in which observable growth should take place at the levels designated. The degrees of development suggested in each of these age periods not only can be realized with these children, but are also recommended as ideal objectives for the various groups. They imply an integrated program that is continuous and developmental from year to year, and they are designed to promote progress toward those objectives that are outlined in Chapter 6.

The attainments outlined must be considered as indicating in only a general way what may be expected from mentally retarded children. They are those that may generally be expected from pupils with I.Q.'s above 55 or 60, since this group makes up the greater part of any special-class enrollment—those less capable represent only a small minority.

It must also be remembered that characteristics of the child other than intelligence will influence his attainment; some pupils with I.Q.'s well above 55 will be handicapped by some other

factor in their make-up. In certain school situations, too, shortness of the school day, inadequate facilities, or some other condition may interfere with the realization of the attainments here defined. The statements may be considered, however, as generally legitimate and reasonable.

General Attainments

General attainments are defined here for three age groupings—primary, intermediate, and high school. The primary and intermediate units are composed of preadolescents; the high-school unit, of adolescents. These groupings are in accord with the developmental patterns of growth outlined in Chapter 3. General chronological- and mental-age parallels for these groups are indicated. These attainments are also classified according as they contribute to the realization of the various objectives set out in Chapter 6—the development of healthy bodies and healthy personalities, of working knowledge of the tool subjects, of ability to find satisfying and satisfactory life in the home and the community, of ability to function effectively in industry, and of capacity for wholesome and satisfying use of leisure time. There will, of course, be overlappings in any of these groupings. They are intended only to suggest general principles.

Specific Attainments at Various Age Levels

The outline of general abilities and attainments presented below indicates the growth anticipated for slow-learning children at succeeding age levels and suggests, in a general way, what the school may hope to accomplish. Principals, consultants, and teachers will find it helpful to study these general abilities or attainments, keeping in mind the particular needs which their pupils manifest, and restating or supplementing the list accordingly. It is evident, however, that numerous experiences and numerous specific learnings must take place in order to realize these life goals. The immediate problem for the teacher must always be to provide, term by term, learning activities that will aid growth toward the general attainments.

In order to plan these activities with a view to such continuous growth, and, particularly, so that she may always keep clearly in mind the needs and capacities of her pupils, it is important for the teacher that such general statements of aims be broken down into more specific definitions of attainments for different ages. Lists of tentative abilities or attainments should therefore be set up for the several age levels, beginning with the age of six or seven years and continuing to the age of school-leaving or of job placement. In devising such attainments, physical and mental growth and social development at different ages must be considered. The range of individual differences in growth potentialities at any age must also be taken into account. For example, pupils with a mental potentiality rated approximately at 50 to 65 I.Q. naturally will not realize at any age level so many attainments as will the more capable group rated approximately at 65 I.Q. or better. The fact must be emphasized, however, that there can be no demarcation of individuals or groups on the basis of intelligence alone since other factors are always operative. In planning methods to elicit the more specific attainments for any age grouping, therefore, the teacher must take into consideration the differences within the group.

The attainments suggest what may be expected of the majority of children of given ages and abilities, but they must always be considered by the teacher in relation to the individual child. The important thing is that each child must be helped to achieve all that he can. Where the goal set is beyond the child's ability or does not call for the fullest exercise of his powers, a new one must be established. Occasionally, there will be the child who shows marked failure because of physical immaturity, sensory defects, emotional instability, repeated habits of failure in the grades, or adverse home conditions. For him there is a need for intensive individual study by the teacher and special treatment.

A carefully developed list of desirable attainments at different age levels has been prepared in the areas of health, communicative or language arts, social studies, and science. The list should prove helpful to both the teacher and the parent. It will define goals of accomplishment toward which both teacher and child may consciously work from week to week and from year to year.

GENERAL ATTAINMENTS

PRIMARY UNIT

C.A.—7 or 8 to 11
M.A.—4 to 8

1. *Use of and regard for simple health habits and safety rules; some sense of responsibility for carrying out some of the simple health habits and safety rules; a feeling of friendliness toward nurses and doctors.*

INTERMEDIATE UNIT

C.A.—11 to 13 or 14
M.A.—6 to 9

Health: Physical and Mental

1. *Use of and regard for simple health habits and safety rules; some sense of responsibility for carrying out personal health habits; some sense of responsibility for contributing to the health and safety of others; a beginning understanding of the structure of the body and its organs as a background for the "why" of health habits; cooperation with nurse and doctor in remedial treatment of physical defects.*

HIGH-SCHOOL UNIT

C.A.—13 or 14 to 16
M.A.—8 to 11

1. *The practice of health and safety habits; understanding in a very simple way the structure of the body and its organs as a background for understanding health habits; choice of balanced diet; some degree of participation in such home practices as the selection and preparation of food; understanding of and some sense of responsibility for health practices and the prevention of disease; rendering simple first-aid service in case of accident; knowledge of health services provided by the city and how to use them; realization of the value of consulting nurse or doctor as need arises; an understanding of health measures on the job—safety practices, proper work clothing, and so forth.*

2. Development of habits and attitudes of obedience, honesty, self-control, thrift, orderliness, industry and perseverance, cooperation, cheerfulness, courtesy, unselfishness, punctuality, reliability in specific home and school situations.
2. Understanding and development of habits and attitudes of obedience, honesty, self-control, thrift, orderliness, industry and perseverance, cooperation, cheerfulness, courtesy, unselfishness, punctuality, reliability in a greater number of situations, and self-confidence.
 - a) Understanding and development of obedience, honesty, self-control, thrift, orderliness, industry and perseverance, cheerfulness, courtesy, unselfishness, punctuality, noticeable growth in reliability, and self-confidence.
 - b) Power of partaking in cooperative enterprise, of responsibility for a job undertaken, of estimating and comparing values in time and money, of judging satisfactory workmanship, of making the most of one's assets.
 - c) Interest in and enjoyment of the company of others, ability to form the right kind of friendships, to be a part of a social group.

HIGH-SCHOOL UNIT

*C.A.—13 or 14 to 16**M.A.—8 to 11*

1. Hearing and speaking vocabulary; power to tell others of personal experiences; greater comprehension of news events and of life's activities generally; an understanding of terms for job employment; ability to apply for a job.

2. Reading vocabulary and reading ability; ability to read material of simple third-, fourth-, or fifth-grade difficulty; habit of reading for information; habit of reading selected stories and enjoying library books; familiarity with the library and its uses; interest in reading the daily newspaper.

INTERMEDIATE UNIT

*C.A.—11 to 13 or 14**M.A.—6 to 9*

Working Knowledge of Tool Subjects

1. Hearing and speaking vocabulary and power to express and comprehend ideas—listening, talking, telling, reporting, dramatizing, and constructing.

2. Reading vocabulary and reading ability; sense of reading for information and for enjoyment; ability to read material of second- and third-grade difficulty; familiarity with the library and its uses.

PRIMARY UNIT

*C.A.—7 or 8 to 11**M.A.—4 to 8*

1. Power to express meanings and desires in words and through concrete materials—listening, talking, telling, playing, drawing, constructing, writing.

2. A desire and readiness to learn to read, an interest in books; the establishment of a beginning reading foundation; ability to read stories of first- and second-grade difficulty.

3. Interest in number and its uses; counting; use of simple combinations and subtraction facts.
3. Knowledge of number facts and processes as they apply to experiences undertaken; finding simple interest; concept of taxes, sales, and so forth; buying for everyday needs; consumer values; concepts of time, temperature, distance, amounts, weight, and size; postal terms and mailing practices; use of number in shop and home-economics problems; ability to deal with occupational problems, such as hours, wages, rates of pay for jobs with varying demands, deductions for community funds, social security, and so forth; budget-making.
3. Knowledge of number facts and processes and their application to personal experiences; ability to add, subtract, multiply, and divide simple numbers, to use common measures, to recognize coins, to make simple change.
4. Power to write one's name and to copy interesting bits of information.
4. Desire to express ideas in writing; ability to write neatly and legibly in preparing books, charts, letters, etc.
4. Desire and ability to express ideas in writing neatly and legibly; preparing notebooks, lists, charts, letters, occupational forms, and so forth.

PRIMARY UNIT

C.A.—7 or 8 to 11
M.A.—4 to 8

1. Use of such mediums as paper, clay, wood, and cloth, to carry out activities; simple hand skills in the use of the tools and materials.

INTERMEDIATE UNIT

C.A.—11 to 13 or 14
M.A.—6 to 9

Family and Occupational Life

1. Use of paper, clay, wood, cloth, and other mediums such as cement or leather, to carry out activities and make useful products.

2. Appreciation of the roles of members of the family and of ways to help in the home; an understanding of home activities related to providing food, clothing, and shelter.

HIGH-SCHOOL UNIT

C.A.—13 or 14 to 16
M.A.—8 to 11

1. Elementary knowledge and understanding of labor and industry and the part they play in the daily life of the community; familiarity with the services and industries in the community; a knowledge of labor regulations and of suitable occupations open to youth.
2. Growth in ability as a homemaker; greater skill in selecting foods and preparing and serving meals, understanding and caring for young children, caring for and repairing clothing, choosing and making simple clothing for self and family (applicable to girls), and using and repairing household appliances. Greater participation in cooperative shopwork; better understanding of the relationship of school shops to industry in the community; more facility in the use of machinery;

2. Simple hand skills in the use of tools and materials listed above.

3. Knowledge and appreciation of tools and materials, as to where they come from, how they are prepared, what they cost.

4. More specific knowledge of tools and skills.

5. Knowledge and skills as they contribute to home life.

greater skill of hand in tool processes; habits of good workmanship and reliability; cooperative work in school services such as nursery school, lunchroom, cafeteria, laundry, and maintenance; increased understanding of the demands of real jobs by taking part in work-out projects.

Community Life

1. Participation in and enjoyment of experiences in the immediate environment—with groups in the home, school, and neighborhood; a beginning appreciation of people who help us, as the postman, the fireman, the mailman, the grocer, and so on.

1. Knowledge of the life of the home, the neighborhood, and the city, and the dependence of these groups on other people for food, shelter, and clothing; knowledge of different kinds of workers in the community and a realization that the world extends far beyond the immediate environment—that many of the things in daily use come from distant places; knowledge of places of local interest, and the ability to use the local transportation system; ability to make and interpret simple maps.

1. Knowledge of life in the immediate community and in different parts of the nation, with respect to the needs for food, shelter, and clothing; understanding of how a city is different from a town, a state, or a country; ability to read maps; knowledge of important places; concepts of distance; ability to use local and interurban transportation; some realization of the improvements due to inventions and of the differences between life now and long ago; interest in current events; knowledge of local, state, and national governments; knowledge of important men and women; respect for and obedience to community laws.

HIGH-SCHOOL UNIT

C.A.—13 or 14 to 16
M.A.—8 to 11

1. a) The appreciation and enjoyment of poems, stories, plays, team games, songs, rhythms, band and orchestral music, dancing.
 b) The use of recreational and educational facilities, the radio, the library, the park, the settlement house, night schools, and group organizations like the "Y" or the Scouts.
 c) The enjoyment of outdoor activities.
 d) The development of a hobby.
 e) The use of crafts, fine arts, or industrial arts for making personal items and gifts and for home improvement.

2. Knowledge through observation and simple experimentation of the laws of cause and effect in the phenomena of nature, an understanding in a simple way of their relationships to his own life; a feeling of interest in and friendliness for living things; enjoyment of gardens and hikes to explore nature.

INTERMEDIATE UNIT

C.A.—11 to 13 or 14
M.A.—6 to 9

Use of Free Time

1. The appreciation and enjoyment of games, poems, stories, songs, rhythms, band and orchestral music, and dancing; the use of recreational facilities such as the library and the park; the enjoyment of outdoor activities; the beginning of hobbies and interests.

2. Observation of and knowledge of simple facts about the phenomena of nature and their effect on plant and animal life; the care of pets and gardens; a feeling of interest in and friendliness for living things.

PRIMARY UNIT

C.A.—7 or 8 to 11
M.A.—4 to 8

1. Participation in and enjoyment of games, poems, stories, songs, rhythms, band and orchestral music.

2. Observation of simple facts about the phenomena of nature, such as the light and warmth of the sun, and rain, snow, and wind, and their effect on plant life; the care of pets; a feeling of interest in and friendliness for living things.

The attainment levels set up for the age groupings from seven to sixteen years also suggest competencies which the individual child can achieve ultimately, and indicate the length of time that may be needed for their realization. A consideration of these should lead both the teacher and the parent to place emphasis on the child's real and present needs, and should help them to understand and accept his potentiality for slow growth toward ultimate social and occupational adjustment.

Health Attainments. The more capable child will understand more of the "why's" related to health activities than will the less capable. The important elements for all children, however, are wholesome attitudes and good habit formation.

Chronological Ages 7 or 8 Years to 10 or 11 Years

1. Acquires and practices healthful habits—has eleven and one-half to twelve hours of sleep a day; plays out-of-doors.
2. Acquires and practices healthful food habits and begins to know some of the proper foods for growth and health—drinks milk; eats a leafy vegetable at one meal a day and recognizes several varieties of such food; eats some fruits every day and recognizes several varieties.
3. Has a knowledge and appreciation of corrective health measures—takes rests if underweight; goes to the dentist; realizes that the school nurse is a friend and seeks her help when needed; goes willingly to the doctor.
4. Meets daily health needs—participates in recording health and cleanliness habits.
5. Engages in free play and in organized games and responds to different rhythms.
6. Follows safety practices when in traffic, during play, and so on.

Chronological Ages 11 Years to 13 or 14 Years

1. Continues to practice healthful habits.
2. Continues to practice healthful food habits and gains more knowledge of the proper foods for growth and health.
3. Meets daily health needs and participates in keeping his health record.
4. Has made noticeable progress in conforming to accepted

standards of personal hygiene and cleanliness—takes care of the nails and hair.

5. Has a growing appreciation of safety practices in traffic, when engaged in shopping, home duties, games, and so on.
6. Understands and can apply simple first aid.
7. Comes to know that the school nurse gives assistance in minor ills, advises and acts in emergencies in school, and visits homes to help parents with health practices.
8. Understands the value of dental and medical services.

Chronological Ages 13 or 14 Years to 16 Years or Older

1. Has formed personal health habits and knows their value—bathes regularly; takes proper care of the hands, uses water, soap, hand lotion; manicures the nails; takes proper care of the hair, including regular shampoo; knows which foods are necessary and chooses a well-balanced diet; chooses clothing suitable for the occasion, and takes care of clothes.
2. Has information and has formed habits related to disease prevention—knows that various communicable diseases are preventable; realizes the necessity of cleanliness in handling food.
3. *Has a knowledge of public health services—is familiar* with community and school health facilities and community health measures, such as the provision of pure water, pure-food laws, and proper sanitation.
4. Has a general understanding of the structure and functioning of certain parts of the body, such as the teeth and digestive tract, as a background for the practice of health habits.
5. Has a general knowledge of physiological changes at adolescence as a basis for understanding and accepting bodily change.
6. Engages in physical activities, such as team and group games, competitive feats (jumping, running, and so forth), and folk and social dancing.
7. Realizes the relationship of healthy physique and good grooming to social acceptance.
8. Understands healthful conditions in employment.

Communicative or Language Arts Attainments. The specific attainments in the communicative or language arts described here have particular significance for the mentally retarded. The

satisfaction and security which the child gains from even a minimum practical mastery of these arts cannot be overlooked. Therefore, the personal-social aspects of development are incorporated in the following outline.

The communicative or language arts are included under age groupings as an orderly sequence of skills in which pupils of varying capacities will grow from year to year. The age groupings and overlap in ages suggest different rates and levels of achievement for children of nearly the same chronological age. Some nine-year-olds, for example, with potentiality of approximately 70 to 75 I.Q. will be ready for the attainments of first-year reading while others, potentially less capable, will not be ready till ten years of age or older.

Chronological Ages 7, 8, and 9 Years (Reading Readiness and Beginning Reading)

Personal-social development, including listening and expression:

1. Has a growing hearing and speaking vocabulary; uses names of common objects such as foods, clothing, toys, games, tools, because of many firsthand experiences.
2. Assumes more and more responsibility at home and school.
3. Likes to work on real jobs.
4. Seeks approval of peers as well as adults.
5. Works and plays with a group and respects the rights of others; shares and takes turns.
6. Imitates adult activities.
7. Enjoys spontaneous dramatic play; wants to use such things as clothing and housekeeping equipment in play.
8. Uses language spontaneously in play.
9. Contributes to planning and cooperative stories, and expresses himself in complete ideas.
10. Pronounces the names of schoolmates, principal, members of his family, and the teacher plainly; can give his address.

Attitude toward reading and the use of books:

1. Enjoys listening to stories and poems.
2. Memorizes and enjoys saying simple jingles and rhymes.
3. Enjoys looking at books.
4. Finds enjoyment in pictures by naming the objects or activity they represent; tells a familiar story from pictures.

5. Desires to learn to read.
6. Voluntarily looks at books on a reading table.
7. Knows that printed symbols mean something.

Beginning reading skills:

1. Begins to use the left-to-right eye movement to follow a moving pointer or liner.
2. Colors to line.
3. Begins to observe likenesses, differences, and special characteristics in word forms.
4. Uses picture clues as helps in identifying new words.
5. Begins to use context clues in oral language situations.
6. Begins to read silently before reading aloud.
7. Illustrates content of sentences and stories read orally by drawing and dramatization.
8. Orally answers questions about short stories read or told to pupils.
9. Makes stories of pictures with help of the teacher.
10. Arranges simple picture material in a meaningful sequence.

Chronological Ages 9, 10, and 11 Years (First- and Second-Year Reading)

Personal-social development, including listening and expression:

1. Likes to assume responsibility for home and school tasks.
2. Likes to help younger children.
3. Cooperates in formulating and living up to group-made rules.
4. Desires approval from adults and peers.
5. Shows more interest in peers and what they are doing.
6. Has growing realization of his ability to do more things and to do them better.
7. Converses, listens to others, and contributes to group discussion.
8. Adds to his vocabulary.
9. Asks meaningful questions and answers questions clearly.
10. Arranges events in sequence.
11. Uses complete ideas in relating an incident or telling a story.
12. Dramatizes situations and stories.
13. Is aware of correct forms, such as "I saw," "I did," "You were," and so forth.
14. Uses common courtesies.

15. Plays the part of a host or hostess.
16. Is learning to use the telephone and take messages.

Attitude toward reading and the use of books:

1. Completes independently the reading of a story begun by teacher.
2. Attempts to read common signs, such as street signs, streetcar placards, store signs, and so on.
3. Reads to gain information.
4. Locates contents and pages more quickly.

Eye habits:

1. Reads without the aid of a liner and without pointing to the words.
2. Holds the book at the proper distance from the eyes.

Word identification:

1. Uses initial sound clues in recognizing words and increases his recognition of common words and phonograms. Shows progress in using phonetic, word, and context clues in identifying words.
2. Begins to master the basic words in Dolch's word list.

Oral reading:

1. Does more silent reading in preparation for oral reading.
2. Reads orally for many different purposes: to give information, to delight others with a story, to read charts, to take character parts, and so forth.

Silent reading and comprehension:

1. Orally answers questions on text read silently or orally.
2. Studies independently and copies words, phrases, or sentences in answer to two or three written questions.
3. Recognizes quotation marks and their significance.
4. Can locate the conversation of a particular character.
5. Retells in sequence contents of stories read.
6. Reads directions and follows them.

Written English and spelling:

1. Learns to spell basic words.
2. Improves writing form.
3. Copies stories, invitations, or notes of thanks written co-operatively.
4. Knows that a sentence should begin with a capital letter and end with period or question mark.

5. Writes one- or two-sentence stories based on pictures.
6. Enters items on pupil or class weather, health, or activity records.

Chronological Ages 11, 12, and 13 Years (Third- and Fourth-Year Reading)

Personal-social development, including listening and oral expression:

1. Has social awareness of belonging to a group and recognizes the value of his contributions.
2. Assumes more and more responsibility at home and at school.
3. Likes to work on jobs that have some importance.
4. Seeks approval of peers as well as adults.
5. Converses and contributes to group discussion.
6. Makes requests or gives simple directions and explanations clearly, both in person and by telephone.
7. Participates in presenting class activities, such as a puppet show, to an audience.
8. Uses common courtesies.
9. Plays the part of a host or hostess.
10. Uses complete ideas in relating an incident or telling a story.
11. Uses correct forms, such as "I saw," "I did," "You were," and so forth.
12. States information clearly.

Attitude toward reading and the use of books:

1. Shows interest in the news and knows where to find the date, weather report, advertisements of larger stores, and local news items, in a newspaper.
2. Brings to school books or stories which he has enjoyed.
3. Goes occasionally to the library for books.
4. Uses the table of contents to locate a title or to find needed information on a subject.

Eye habits:

1. Uses regular eye movements in reading easy material.
2. Has less need for vocalization or lip movements.

Word identification:

1. Uses phonetic, word, and context clues.
2. Masters basic words in Dolch's word list.

Oral reading:

1. Studies reading lessons and exercises independently.
2. Independently prepares for oral reading before a group.

Comprehension:

1. Reports orally on a library book or a selection from the reading table.
2. Recognizes paragraph form and can state the thought of a paragraph.
3. Follows directions of silent reading exercises.
4. Selects parts to dramatize.

Written English and spelling:

1. Learns to spell basic words.
2. Keeps his own word list or refers to class word list.
3. Can state orally and write two or three meaningful sentences in which newly mastered words are used.
4. Writes short sentences from dictation.
5. Enters items on pupil or class records.
6. Can write a brief invitation or note of thanks.
7. Can write a friendly letter.
8. Improves writing form (learns cursive writing if it has not already been mastered).

*Chronological Ages 13, 14, 15, 16 Years and Older (Third-, Fourth-, and Fifth-Year Reading)***Personal-social development, including oral expression:**

1. Enjoys more self-confidence as his ability to express himself in person-to-person relationships increases.
2. Realizes the value of his contribution to a group organized for work or play.
3. Knows his abilities and realizes his limitations compared with his peers.
4. Desires approval from his peers and from adults.
5. Acts as member of a committee and gives reports.
6. Participates in presenting class activities or an explanation of a project to an audience.
7. Uses the telephone.
8. Plays the part of a host or hostess.
9. Is more self-critical in using common forms of speech.
10. States information and directions clearly.
11. Relates incidents, stories, and current events simply but with purpose and understanding.

Attitude toward reading and the use of reading materials:

1. Has greater interest and ability in reading recreative material on the reading table.
2. Is more aware of the importance of reading ability for the adult in everyday life and work.
3. Goes independently to library for books.
4. Can locate the name of a newspaper and read the date, weather reports, advertisements, help wanted section, radio and television programs, and so forth.
5. Uses the telephone book, street directory, and city maps.
6. Reads signs and directions readily.
7. Keeps a record of books read.
8. Is familiar with sports, news, certain comic strips, and so forth.

Eye habits:

1. When working with easy material, he reads lines rhythmically with an accurate return sweep.
2. Is aware of proper reading conditions.

Word identification:

1. Uses glossary and dictionary as well as context clues for word meanings.
2. Uses phonetic clues more and more independently.
3. Can construct plural and singular forms of words.
4. Masters words and phrases connected with an occupation.

Comprehension:

1. Can select and read the portions of a text that contain the facts needed to answer definite questions.
2. Can find the main thought of a short selection.
3. Can select appropriate titles for short passages.
4. Reads material containing information and prepares oral reports.
5. Reads to predict the outcome of relatively easy logical sequences of events.
6. Reads to note detail.
7. Reads captions, forms, signs, and directions readily.
8. Enjoys humor in reading material.

Written English and spelling:

1. Learns to spell basic words.
2. Keeps his own word list or refers to class word list.

3. Improves writing form ; can achieve a grade of 80 in Ayres Handwriting Scale.
4. Keeps pupil or class records.
5. Writes a paragraph on a topic of interest.
6. Writes invitations, notes of thanks, friendly letters, business letters.
7. Addresses envelopes.
8. Writes post-card messages.

Social Studies Attainments. The ideas, attitudes, and habits in the field of social studies are, of necessity, recurrent, cumulative, and dependent on the child's individual background. The retarded child arrives at general concepts and attitudes very slowly. Growth comes through many and varied experiences that put the child in touch again and again with the same facts and principles. Take, for instance, the concepts involved in understanding our dependence on other people in the matter of shelter. The child of eight, nine, or ten may visit a house while it is in the process of construction; he may watch the different workmen, observe the different materials that go into the building, and note something about where they come from. He may help construct his own playhouse and live again in play much of what he has seen. At the ages of twelve and thirteen, when he visits a house in the process of construction, he becomes aware of the variety of the workmen's jobs, the tools they use, and the materials with which they are working. He may become interested in ways in which these materials are prepared and manufactured. He may visit the brickyard, the cement-block plant, the plumber's supply house. He comes to realize the number of workers who contribute to the building of the house and the numbers of sources from which materials come. At fourteen and fifteen years, when he comes to use power machinery in the woodworking shop, to experience assembling and finishing, to wire an electric door bell, or to put in a pane of glass, he may be directed to an increasing realization of man's labor in providing shelter. Through such recurring and ever enlarging experiences, his concepts and attitudes are built up. The teacher's purpose is to give to each child as broad and deep an understanding and *appreciation of these concepts as possible.* *The more capable*

child will make more associations and see more of the relationships between products and workers than will the less capable child, but each will have some knowledge and some understanding of the different materials and labor involved in building.

The following social studies attainments are suggested for the first age group.

Chronological Ages 7 or 8 Years to 10 or 11 Years—Mental Ages 5, 6, and 7 Years

1. Knows about his home, the kind of house he lives in, the number of rooms, their names, their use, the furniture, the kind of light and heat used.
2. Knows about the members of his family, something of what each does to help in the home, the housekeeping activities, the occupation of his father and mother.
3. Knows his neighborhood—other families living in homes like his, knows the stores and markets from which they get the things they need, the post office, the library, the firehouse, the church. Finds his way about readily.
4. Knows something about the work of the tradesman, the carpenter, the mason, the plumber, the tinsmith, the painter.
5. Knows something about a farm, the work of the farmer, the farm crops, dairies, and dairy workers.
6. Knows about the different ways of traveling: the streetcar, the bus, the train, the airplane, the boat—how they go, who runs them, how they take care of people, what they carry, and so forth.

Science Attainments. Concepts and attitudes in the field of science are developed in the same way as in the social studies—through repeated observation and experience with natural and physical phenomena. The child of eight, nine, or ten may watch the trees bud, leaf, and blossom in the spring; he may gather many kinds of leaves, or chestnuts and acorns in the fall; and he may observe the bare trees in the wintertime. At the ages of twelve and thirteen he begins to realize the yearly cycle of tree and plant life; he may learn to recognize the common shade and fruit trees and realize that the lumber he is working with comes from a certain kind of tree with which he is familiar. At

fourteen and fifteen there may be a growing familiarity with the common trees, their characteristics and their uses.

The following are statements of general science attainments for the first age group.

Chronological Ages 7 or 8 Years to 10 or 11 Years—Mental Ages 5, 6, and 7 Years

1. Associates a few characteristic conditions with special times of the year:
Thanksgiving—plants are ready for winter.
Christmas—days are cold and short.
Easter—the sun feels warmer, the snow has gone, plants begin to waken, robins have come.
2. Associates familiar seasonal characteristics—colder weather, falling leaves, fewer birds; warmer days, soft, wet ground, blossoms, birds, and insects.
3. Knows that plants need warmth, air, water, and sunlight.
4. Knows the proper food for pets cared for at school and at home and the habits of such animals.
5. Knows about the common farm animals—the food they eat, the work they do, and their habits.

Need for a Curricular Plan

The outlines just presented only suggest the ways in which general educational purposes may be fulfilled in specific attainments. When no curriculum is available, the special-class teacher may set up such specific attainments for the children in her group. She must consider first the chronological ages, mental abilities, and physical and social development of the children; information on these factors will indicate generally their present learning ability, their rate of growth, and their social interests. Next, she will consider their environments, their health, social, and personal needs, and their present abilities in the tool subjects and hand skills. She may then choose the general statements appropriate to their age groups and analyze each general statement for the specific attainments that would seem to have most value for her pupils. The outlines given in Chapter 14 of specific attainments suited to the various abilities of pupils may suggest a similar outline for her particular group.

Any outline of attainments is tentative and will be subject to revision as subsequent experience shows what is of most value to the individual child. Nor is it to be concluded that the teacher can forecast all of a pupil's needs. But such a plan, made by the teacher or by groups of teachers and given a fair trial in the classroom, should provide both teacher and pupil with more definite purposes, insure a steady and continuous progress toward important educational goals, and prepare the child to meet life situations in a more effective manner than would a program which was designed for average children of the same mental age. The three factors that must be given most attention in drawing up such a plan are the final purpose of the attainments selected, continuity of pupil growth, and the suitability of the various attainments to the child's all-round ability and life experiences at succeeding ages.

Questions and Suggestions for Study

1. Review the development of mentally retarded children at eight, nine, and ten years, as outlined in Chapter 3. Are the attainments outlined for these ages commensurate with the children's expected development?
2. Follow the same procedure for age groups eleven to twelve, thirteen, fourteen, and fifteen years.
3. How is a general view of expected attainments helpful to the curriculum builder, the consultant, and the teacher?
4. These attainments are not outlined in order of their importance. What would be the difficulty in attempting such an arrangement?
5. Choose some one group of objectives listed in Chapter 6 and develop a list of specific accomplishments that would contribute to its realization.
6. Select from the list of guides on page 245 the references which would probably be of most help in setting up attainments for a group of retarded children of seven to nine years of age. Make a list of such attainments.
7. Devise a list of attainments for eleven-, twelve-, and thirteen-year-old girls and boys in social studies; in science.
8. Note the advantages of a list of attainments drawn up by a teacher for her pupils.

Reading References

See the list of reading references at the end of Chapter 13.

II

Means of Furthering Growth

How will desirable knowledge, habits, skills, and attitudes be realized by the retarded child? By means of what procedures, methods, and materials will they be taught? It is certain that these attainments cannot be realized unless the child's acting, thinking, and feeling are constantly motivated. They must become part of his experiences and be associated in his mind with situations in his everyday life at home and in school. These attainments are utilitarian and social in their implications: they must be arrived at through meaningful experience. They must be acquired in situations that call for their use and that require their practice. These children can learn, and their learning is facilitated by well-planned procedures that take account of the developmental span of their growing years.

The philosophical and educational principles previously set forth indicate that educational enterprises must be vital and related to life's needs. They may then serve as a core for motivating and integrating learnings. The need for activity and actuality in experience is also stated.

Children's activities, interests, and problems that are related to their immediate needs and their environments should provide the basis for planning a suitable curriculum. Such life activities, interests, and problems can become the means of integrating classroom work and of motivating and applying the learnings for which the child has a readiness. Special-class teachers have long

experimented with curricular activities centered around the life experiences of pupils.

Use of the Unit Method

The work done in special classes has demonstrated that, in contrast to subject-matter organization which limits purposeful, active participation on the child's part, units that cut across life experiences offer opportunities for activities in which the child feels the need to inquire, to make observations, to secure information, to try out things, and to solve problems. Such activities, in turn, help the child achieve many worth-while learnings. Units developed at the younger levels have been directly related to interests and activities in the child's environment and have broadened at the intermediate levels into units dealing with areas of home life, occupations, and health. Because it offers opportunities for vital learning that has meaning and direct applicability, the unit method is a means by which slow-learning children can achieve the goals appropriate to their periods of growth.

The unit of work is defined as an organization of varied learning activities or experiences centered around an interest or interests significant for the child and designed to further developmental learnings or tasks. The unit is a method whereby the child under teacher guidance can develop and clarify concepts, attitudes, and skills, which enables him to better understand and relate himself to the persons and situations in the environments in which he is growing up. In the development of units there will be opportunity, for example, to observe, to listen, to develop oral language, to read, and to express in writing, in illustration, and in construction. These learning activities are, in turn, centered around motivating problems which call for the development of concepts and generalizations. The teacher needs to recognize that growth in concepts for these children calls for careful sequential planning. Just as in the usual child, concepts begin with the immediate. The slower the child, however, the more time and more specific direction are needed to understand

half found out how to care for chickens. The next trip taken was to a poultry show held in the local convention hall, where the children enlisted the interest of the officials in their project.

The first real activity at the school was the planning and building of the laying house. This supplied the material for all of the arithmetic work for some time. Not only did the children have to draw plans, but they also had to measure up their lumber and then telephone several building wreckers until they could find the best lumber for the least money.

By the time the henhouse was finished, the class was about \$27 in debt. They then gave a movie for the school with the Kodascope they had bought for the school a year or so before. The class cleared \$25.

When all was ready, they put fourteen pullets in the new laying house. A Poultry Club was then organized and officers were elected. The children attended to all the business of buying feed and selling eggs. The secretary and treasurer kept a book in which they entered the day's happenings—amounts expended, number of eggs sold, and so on.

They wrote many letters for information on equipment and on feeding and general care of poultry and used information from Cornell University both in building the laying house and feeding the flock. They subscribed to a poultry magazine which came every month. The children learned to care for the chickens and did so very scientifically.

Much of the supplementary reading was based on "dittoed" stories about this unit of study, such as "How We Built Our Henhouse," "Cornell Poultry Rations," and "Fresh Water Is Important."

What were some of the learnings or attainments suitable to the stage of growth of these children which resulted in this interest?

Attitudes of observation, inquiry, and consideration were developed, together with an understanding of some of the many sources of information, an appreciation of a club organization and the duties of officers and members, and an ability to read and to understand information. There were also many learn-

ings in arithmetic—measurement, cost of lumber old and new, and values of returns on an investment.

Practice in making out bills, in making change, and in keeping money accounts, could not have had the same value apart from such a situation which demonstrated and involved actual needs for these activities. Lumber bills, feed bills, bills for eggs, paying out and taking in money, and keeping accurate records, were all real situations.

Many children acquired a sense of reliability and dependability that they did not have before. A year later, four of the boys and one girl kept a few chickens at home. There was great competition among them and interest ran high every morning when they told how many eggs they had gathered the day before.

Unit on Cement. A class of boys eleven to thirteen years of age had experimented in making tea tiles from cement under the guidance of a visiting art student. The boys enjoyed the mixing process. They wanted to make cement blocks. When they began to consider the "how," they decided that, first of all, they would have to know more about cement and how blocks were made. With the aid of a city directory, a cement-block factory was located and five of the boys who had telephone directories at home found the telephone number and reported it to the class. Arrangements were made for the visit. The boys returned from the visit with information about cement and better ideas of how to make blocks. The following excerpts are taken from the teacher's report.

After much discussing and planning as to how we could make cement blocks, we decided that a wooden form should be made and tried out.

After measuring lumber with yardstick and ruler and studying comparative thicknesses of several pieces of stock, we selected the material. We set our planes and worked out a wooden form that could mold twenty-five blocks at one time. The boys made about four hundred three-inch blocks. They learned the right consistency of sand and cement to make strong blocks. Each day, four different boys were chosen to manufacture blocks, season them, and pile them up.

We tried to get cinders to try out the cinder block, but found that no firm would deliver us a small quantity.

The boys decided to build a house from their manufactured blocks. They built a sturdy wooden platform for a base. They first set up blocks without cementing them together to get the proportions. Then the real work started. We tried five times to mortar or cement blocks together and each time the wet cement dried too fast or the dry blocks absorbed the moisture. The walls had to be taken down, the cement blocks scraped and cleaned to regular size, and the attempt made again. It happened at this time that some masons were working in the school building. A committee of two boys was chosen to ask one of the masons just what proportions they used for mixing the cement for a cellar. The boys learned that they were putting too much sand in the mixture and, also, that each block must be dampened before using so it would not be too absorbent for the wet cement mixture. With this in mind, they made a new mixture of mortar using one part of sand to eight parts of cement, dampening the blocks before use. This time they were successful! The boys learned that they had to act quickly before the mortar dried. While three boys were engaged in laying blocks alternately, other boys of the group planned and measured the size of windows and doors for the house. They made two door frames, two doors, four single windows, two triple windows, and one bay window.

Four boys planned to build a wooden model of a cement-block factory like the one they had visited. The machinery and the workmen were made of plasticine. The boy who assumed charge of this job was very particular about having measurements as accurate as possible. He did not accept any work from his assistants that did not come up to his standards.

At the beginning of our study we read about cement and concrete from a geography book. For supplementary reading, the following four books were taken by the boys from different libraries:

- CHAMBERLAIN, JAMES F. *How We Are Sheltered*, chapter on artificial stone. New York: The Macmillan Co.
 DAVIDSON, RALPH C. *Concrete Pottery and Garden Furniture* New York: Ralph C. Munn & Co.
 HUSBAND, JOSEPH. *America at Work*, chapter on concrete. Boston: Houghton Mifflin Co.
 TARR, RALPH S., and McMURRY, FRANK M. *New Geographies: Second Book*. New York: The Macmillan Co.

Paragraphs were assigned to the boys and they agreed to report two important and interesting topics from their reading. . . .

The class was especially interested in reading stories that they helped plan and that were later made into real reading books by them. These stories were about their actual experiences and contained pictures they had found in magazines as illustrations. Some of the stories were:

"A Trip to a Cement-Block Factory"

"A Letter to Mr. S."

"How We Made Cement Blocks"

"A Trip to See a Freight Train"

The location of the factory very near the railroad brought to our attention the transportation of materials and the manufactured blocks. We took a trip to a New York Central Railroad siding near the school to observe and study types of freight cars. . . .

We traced the railroad and canal system in New York State. . . .

The class planned to make booklets of their written work on the unit as it was developing from day to day to be taken home to their families . . . There were many illustrations in crayon and pencil. . . .

Measurement and the estimating of simple proportions were needed repeatedly in making the blocks, in building the house, in making booklets. The cost of materials and labor came frequently to our attention. . . .

Incentive for improvement in writing and spelling came through writing letters and preparing work for their booklets.

It happened that the father of one of the boys was repairing his cellar steps and walk. His son helped him to mix the cement in right proportions as well as to lay and spread the cement.

About a week after the unit was completed, one of the boys brought a clipping from the newspaper, "Builder's Supply Firm Has Large Plant for Manufacture of Blocks and Pressed Brick." With great satisfaction he showed the teacher that this firm was none other than the one the class had visited. The entire group were delighted to hear an account of a firm with which they were acquainted.

The excerpts from the teacher's report indicate how the interest in making cement blocks grew and led to many other experiences—planning and carrying out trips to a factory and a railroad, reading about cement, writing cooperative stories, making books, illustrations, building a house, building a replica of the factory, working out oral and written problems in measurement, and writing letters. In the course of these experiences, many worth-while learnings took place. The teacher's complete report lists among these: accomplishments in English, reading, number, spelling, hand skills, and social studies. Some of the specific attainments listed by her were:

1. Ability to use new words in stating information
2. Ability to read and the habit of noting titles and authors of books

3. Ability to measure independently to one-half inch and to one-fourth inch
4. Ability to solve one- and two-step problems on amounts and costs of materials
5. Realization that a workman must know many things to carry out his job
6. Group cooperation on trips

Unit on Child Care. A unit on child care developed in a class of girls of from thirteen to sixteen years through interest created in the home economics class. The study and preparation of the proper food for babies and young children which was done in this class stimulated interest in other phases of baby care. This interest appeared in the special-class room and was developed in discussion.

First of all, the baby's needs for clothing, furniture, and so forth, were discussed. Two trips were planned with the class—a trip to see a model baby's room in the practice house of a nearby school, and a second trip to a babies' department in one of the city's department stores. As an outcome of these trips, a model baby's room was fitted up and a baby's layette was made.

Many experiences grew out of these undertakings—finding information on child care from Health Bureau bulletins; putting the information found on cleanliness, rest, fresh air, time schedules, clinic service, and first-aid rules in illness into simple statements for a child-care book; reading about child life of other times and in other countries; planning diets, clothes, and time schedules for babies and growing children in the girls' families; learning children's poems and lullabies; enjoying pictures of children; bringing in a real baby to weigh, to bathe, and to dress; observing a two-year-old at play; discussing play activities of young children; planning a tea and inviting guests to see the results of their work.

This study gave increasing purpose to reading, English, and number study. It lent importance, understanding, and interest to the care of young children—a duty required of many of the girls in their homes. It gave the girls who did not have this responsibility an opportunity to carry out some of the activities connected with child care and home life.

In these experiences, the girls showed definite development in the following :

1. Growth in hearing and reading vocabulary
2. Ability to read stories with understanding and enjoyment
3. Ability to state information gained
4. Ability to estimate amounts and costs of food and clothing
5. Ability to make baby's clothes
6. Ability to launder cotton and woolen baby garments
7. Attitude of helpfulness in child-care problems in their own home
8. A greater awareness of the value of clinic service
9. An appreciation of how a baby's room can be fitted up simply and attractively with little expense
10. Poise in meeting guests

Value of the Unit of Work

The accounts in current literature of curricula developed with average and superior children emphasize children's multiplicity of interests, their ability to initiate, to plan, to question, to find pertinent information, to weigh values, to solve problems, and to create. Emphasis is placed on the contributions of the children in the selection and planning of experiences in developing the units. These abilities are marks of intelligence. The mentally retarded will show only the simplest indications of these abilities. But many of them will question, make suggestions, and try things if the situation in which they are placed is within their understanding. There is, moreover, sufficient evidence to indicate that, with intelligent guidance, the majority of slow-learning pupils develop a wholehearted interest in trying to solve a problem and that through this interest they may be led to question, consider possibilities, and carry out a plan. Teacher guidance in directing experience is, however, of paramount importance with the mentally retarded. Although many of their experiences will develop as the result of the teacher's suggestion, purpose and interest will nevertheless be present and the children may realize great profit.

This fact may be illustrated from the development of the unit on child care. The idea of making a child-care book came as the

result of teacher suggestion, but the idea appealed to the girls. As a result, they developed attractive books that they enjoyed using later for reference. The teacher made the suggestion for a tea and guided the planning of it, but it became the girls' enterprise and was carried out by them in every detail.

In general, the value of a unit of work for the mentally retarded lies in the opportunities it offers to them for vital and significant learning. In various specific ways the unit of work is fitted to function to this end:

1. It brings real purpose into much of the child's work and play.
2. It enables him to experience things firsthand—to have sensory experiences, contacts with realities.
3. It gives meaning and interest to the commonplace in his environment.
4. It enables him to plan, execute, and judge in a simple way at the level of his stage of maturity.
5. It teaches him how to do things and how to conduct himself in actual situations so that behavior is integrated.

The development of the unit on cement may be used to illustrate these five points. Through it greater purpose was given to reading, to discussion, to writing, and to measurement. The boy working in the unit experienced realities. At the factory, he saw different kinds of materials in large quantities, he saw machines and processes; when he made his own blocks, he handled materials. He gained increased understanding and interest in the ways cement and concrete products are made and transported, their costs, their uses, and the need for a workman to plan his work. The boy gathered information he needed to plan and carry out his ideas. Actual results showed whether or not his plan was sound. The use of the directory, consulting workmen about their methods, measuring materials, making blocks, cementing them, securing books on cement from different libraries, making books, and writing a letter of appreciation to the factory owner—all are instances of how he learned to do things in real situations. His learnings were part of a total behavior situation. Units that will produce such experiences promise vital returns in the education of the slow-learning.

Use of Daily and Occasional Incidents

Units such as those described are one means whereby desirable educational attainments may be realized with the slow-learning group. But in regularly recurring or occasional incidents in the daily life of the children there are also many opportunities to further progress toward these attainments. Such incidents, which could be developed by the teacher as valuable learning situations, are too often passed by unnoticed. How common situations can be used to advantage is shown by the following list of activities:

1. The children take the attendance. They report on the number of boys and girls present and post the numbers with the total on the bulletin board or attendance card. The fourteen- and fifteen-year-olds keep the daily attendance record and compute the average daily attendance.
2. An invitation comes from another class. The children read it and plan what the reply will be.
3. A set of new reference books is sent to the school. They are brought to the special-class room where the children examine the binding, the illustrations, and the print. There is a discussion of how to open a new book and how to take care of books. The pupils also discover how the books treat some topics they are familiar with. There is a discussion of the use to which these books can be put. When information on these topics is desired, the new books will be consulted.
4. A new baby arrives in the family of one of the children. The children are interested in its birthday, its name, and how much it weighs. The information is entered in the "class diary" or in the class newspaper.
5. The height and weight survey offers opportunity for comparing measurements; for keeping a record of diet, rest, and exercise; for watching the effect of these on weight and noting any improvement in the record.
6. Springtime finds the schoolyard cluttered with paper and the soft ground overrun by careless children. The class cleans up and posts signs. The class visits some of the home yards to observe how the children have cleaned them up.
7. John has no place in his room where he can keep his clothes properly. A packing box is located and the teacher and boys

help John develop a plan for converting it into a clothes chest.

8. The teacher of a first-grade class asked the special-class teacher if book bags could be made for the children. A committee of girls visited the first grade to find out the number of bags needed, where and how they would be used, and so forth.
9. Several bees fly in an open window in a primary class. The tendency of the children is to be frightened. The teacher uses the incident to stimulate an interest in bees, in discovering the spots in the neighborhood that the bees frequent, and in learning how they make honey.
10. A boys' class gathers some cocoons. The hatching of a beautiful *Cecropia* moth leads to the discovery in the science reader that the *Cecropia* moth is a cousin to the silk moth that is raised in Japan. Threads of the cocoon are examined under the microscope and silk cloth is discussed and examined.

Such situations offer almost endless and invaluable opportunities for developing attitudes, knowledge, and skills. They may stimulate interest in other experiences or in developing a unit. There is always plenty of such material at hand for the teacher to seize on. By such means, the teacher can provide new learnings from situations that might otherwise have been unnoticed or noticed only very casually.

Provision for Art and Industrial Arts

Experience in art and industrial arts, including all kinds of handwork, plays a large part in the education of the mentally retarded since much of their satisfaction and learning comes through manual experience. Lists of attainments in art and hand skills outlined in the units described in Chapter 14 offer suggestions. For this aspect of her work, the special-class teacher needs training and experience in a wide range of activities and techniques, such as drawing, painting, finger painting, modeling clay and papier mâché, plaster casting, marionette and puppet construction, block printing, weaving, sewing, and woodworking. The teacher must also appreciate "art in life" and recognize the aesthetic joy and the value that result when the simplest sur-

roundings and materials for life needs are expressed in pleasing form, texture, and color. Only brief reference can be made here to the purpose and means of utilizing art and industrial arts in the daily program.

Today the individual and creative aspects of manipulative experiences are recognized. In the past much of the handwork in the schools was planned simply as training to develop motor ability, to give satisfaction in accomplishment, and to produce skills and habits for industry and practical life. Today industrial arts serve also as a means of expression—of interpreting and giving form to ideas; of solving problems; of vitalizing and motivating interest in other content and subjects; of developing understanding of the changes man has made in his use of raw materials; and of the interdependence and cooperation of workers.

Units may be developed to provide opportunities for handwork that serve many of these ends. Illustrations of such purposeful types of handwork may be taken from the three units outlined in this chapter: they included building a poultry house, making cement blocks, building a house, making a layette, preparing and serving refreshments for a tea, and making record books. As pupils grow older, units centered in shop activities and homemaking provide further opportunities for handwork that will contribute to effective learning about raw materials and the relation among workers.

There is also a type of handwork that grows out of the practical or aesthetic needs in the environment. Illustrations of this type of activity have been described previously—cleaning up lawns, making a clothes chest, and making book bags. One can readily recognize the value to be derived from handwork growing out of such a practical or aesthetic need in contrast to a program which provides mainly for the construction of models.

Techniques and standards of workmanship in the industrial arts may and should be maintained although the work is done for a real need. As the child carries out his purpose, he should learn what tools and materials to use and how to use them. He should be led to appreciate sound standards of workmanship and to develop a feeling of self-respect in a piece of work well done. A

plan of attainments such as those outlined in the units described in Chapter 14 may be a guide to such growth and development of the child as he carries out his purpose. Definite planning of industrial arts experiences with definite goals in view is necessary if satisfactory attainments are to be realized in this field. The plan may be studied by the pupil as well as the teacher—in industrial arts as in other subjects. The pupil will thus learn that there is a definite plan of progress in his handwork just as there is in his reading.

Practice in the Tool Subjects

Experiences growing out of a unit or out of daily and occasional happenings will rarely, if ever, furnish adequate opportunity to develop mastery of essential attainments in all subjects, especially in the tool subjects. Such experiences will show the child the need for learning to read, to write plainly, to speak clearly, to count accurately. But there must be additional provision for practice in these skills if any satisfactory degree of mastery is to be attained.

More and more reading material related to units and graded to the ability of the average child is available. Much of this material, if properly selected, is satisfactory for use with the slow-learning child. Pupils and teachers often cooperatively work out stories and texts containing information with certain vocabulary control, but such materials rarely provide sufficient practice. Frequent reading periods with scientifically developed materials, from the reading readiness period on, are necessary if the child is to learn new words and to develop proper reading habits and skills. Until sufficient suitable reading material is available, many teachers will make careful use of good basic readers which are designed for the average child, with provision for those who learn more slowly.

The majority of units and studies of daily happenings offer more opportunity for practice in oral expression than in any other tool subject. They all suggest interesting problems and topics to be discussed and written about. However, time must be given to teaching the specific habits and skills in English. Teaching the habitual use of a correct form of speech may

require several periods. Achieving the ability to make a request clearly may call for such special practice as the dramatization of several incidents in which this ability is necessary. Learning to spell important words will require definite periods of explicit instruction.

Certain number facts and number processes must be learned and practiced if the child is to have facility in solving arithmetic problems. Experiences in a unit of study and recurring problems in everyday life show the child the necessity of mastering number processes. Additional instruction and practice, however, is necessary for the development of number abilities.

Hand in hand with the experiences of any unit, therefore, must go the teaching and learning of certain important skills in the tool subjects. It seems hardly necessary to add that practice planned to this end must be given real meaning for the child. Practice must not be directed toward the mastery of facts or skills that are not of immediate and significant use to him.

Questions and Suggestions for Study

1. Select and read three of the references listed on pages 245-249. Which one seems to you most helpful in its interpretation of the purpose of the unit? Why? List terms that are used most frequently in discussion of units—for example, "purpose," "meaningful," and "activity." What is the significance of each?
2. State in your own way the meaning of the terms "unit," "experience," "attainment," as they have been used in this chapter.
3. Outline one of the units described in this chapter. Consider, especially, initial motivation for the undertaking; experiences that developed; resulting attainments.
4. Suggest for each unit some of the basic concepts that you think the pupils already had as background for developing new concepts and generalizations.
5. Discuss some of the experiences in the unit on child care that may have helped to give the girls the increased social poise that was evident when they received their guests at tea.
6. Discuss how a unit on cement might develop with normal boys of eleven and twelve years of age. What interests might be an outgrowth of their reading? of their discussion? What experiences and learnings might result? Contrast the abilities of the normal and the mentally retarded as they might affect the development of such a unit.

7. a) A unit wisely chosen and guided gives purpose to handwork. Illustrate.
- b) Handwork is sometimes little more than mere "doing" without purpose. Illustrate.
- c) Write out six illustrations of ways in which each unit listed below may have made the handwork that developed from it meaningful:

AGES	UNIT	HANDWORK
8 to 12	Keeping Our Clothes Clean	Building a laundry. Making soap.
8 to 12	Fairy Stories	Building a stage to give plays, making a stage background, curtaining, making costumes.
12 to 16	Our Clothing (A unit for boys)	Copying a model of a spinning wheel. Making a class ironing board and a shoeshine stand to use in keeping clothes and shoes in good condition.

8. Does the development of the unit on child care outlined in this chapter illustrate each of the five ways in which a unit may be valuable to the mentally retarded? Develop your answer fully.
9. List ten possible daily or occasional happenings in the lives of your pupils that might be developed as learning situations. Make suggestions for their utilization as learning situations according to the following plan:

SITUATION

HOW TO USE IT

*Ages 8 to 12**Ages 12 to 16*

Eye care requires attention to proper lighting.

Deciding where and at what time of day the light is best. Observing light on different days. Deciding when shades should be drawn and electric lights put on. Finding the best position for close eye work. Listing rules to follow. Reporting on light in homes—rooms with the best light, poorest light.

Using a candle meter if possible to measure light in room. Making room plans to show lighting, exposures, methods of lighting on different kinds of days. Studying ill effects of poor lighting. Inviting other classes to hear findings of study. Taking over responsibility, through a committee, for caring for light in room.

10. The experiences in a unit may be made an incentive for mastering the tool subjects. Discuss and illustrate this statement.

Reading References

See the list of reading references at the end of Chapter 13.

I 2

Unit Selection and Planning

In the preceding chapter, the values of the unit for the mentally retarded child were discussed—the opportunities it provides for increased sense of purpose in work and play, for contact with firsthand experiences, for attaining better understanding of the commonplace in the environment, for planning and executing and learning in real situations. If any or all of these values are to accrue, units must be carefully selected on the basis of well-chosen criteria.

Criteria of Effective Units

The criteria that may be applied to the choice of units are embodied in the principles developed in Chapter 4, which summarizes the principles underlying the education of the mentally retarded child. Here it was pointed out that education must be suited to life's interests and needs, to the child's mental, physical, and social development, and to individual and group growth; that it must provide for development of personality, for practical mastery of the tool subjects, for a wide variety of activity and experience, and must carry over to life outside of school. These are the requirements that the unit of work must fulfill.

The unit should grow out of real-life situations. A unit of work should be closely related to the child's life and appeal to his interests. Life is teeming with activity in which children are

interested. Much of the young child's play is in imitation of what he sees and hears around him. If the unit of work is centered about some activity that comes normally into the life of the mentally retarded child and provides him with opportunity to carry out his own ideas in relation to it, there is sure to be interest. The unit on poultry described in the previous chapter illustrates this point. It developed from an activity that the children had observed in their out-of-school experiences and that was directly related to the home life of some of them. Opportunity was given to consider and plan in relation to it. Interest ran high. The unit on child care was also developed from a normal interest in the life of adolescent girls. The development of units of work from such near-at-hand situations has particular value for the slow-learning group, who are inclined to learn incidentally much less from their environment than does the average child.

The unit should be suited to the child's social, physical, and mental level of development. It goes without saying that the choice of a unit depends on the child's previous experiences and his present abilities. Children with very meager home backgrounds, for example, usually require more equipment and the repetition of more observations and experiences in order to learn about the commonplace than do children with better home opportunities; units planned for such children would not cover so wide a field of interests as would those for children with average or above-average home backgrounds. Units for the young mentally retarded child who tends to be interested only in the immediate and the "doing" side of an experience must provide for learning through observation, construction, imitation, and play. They must also provide opportunity for self-expression. Such activities should be developed as making a house, housekeeping, building a post office, playing post office, making a model of a street-car, playing conductor, passenger, and motorman.

The adolescent will profit most from units that provide opportunity to carry out activities common in home and community life. Relating to the life of the home, such activities might be developed as food preparation, the making and care of personal clothing, the use of household appliances, heating and ventilating

the home, making repairs in the home. Activities related to vocational interests that might be valuable are service in the school cafeteria, shoe rebuilding, the making of furniture, toolmaking, and automobile repair. Directly related to or, preferably, developing from these activities with which the slow child may readily identify his own interests and problems, there may be others that will help him to appreciate man's utilization of raw materials and the cooperative efforts of society in the production and distribution of goods. Every teacher must know the members of her group thoroughly if she is to choose units suited to their needs and abilities.

The unit should further both individual and group growth. The unit should be so planned that it helps the group as a whole to develop qualities of participation, cooperation, and consideration. It must also be planned so that all the children can profit from it individually. Each child should make some gains. This criterion is particularly significant for an ungraded class because of the diverse abilities that may be represented among the pupils. At times, the work of a class may be so arranged that only one group profits from it, while for the remaining groups, the work is too easy or too difficult. When preadolescents and adolescents must be members of one class, a unit should be chosen in which both can participate at their respective levels. Take, as an illustration, a unit on transportation. As a part of the unit, the older pupils might assemble pictures and make models to show transportation at different periods. They might work out a history of transportation. They might find information and stories to read to the younger children. The preadolescents might assemble pictures of different kinds of transportation today and make a model of each kind. The adolescents could assist the younger children at this work. The units described in Chapter 14 suggest experiences suited to different age groups and abilities within a group.

The unit should provide for the development of desirable habits and attitudes of social living as well as for the acquisition of appropriate knowledge and skills. Every unit of work should offer plenty of opportunity for the practice of such traits as self-control, thrift, orderliness, perseverance, cheerfulness, courtesy,

and unselfishness. Such opportunity may be provided in situations where the child learns to wait for the use of a tool, to economize on material, to put materials in place, to stick to a task until completed, or to help another pupil. Needless to say, it is of great importance that the unit provides the motivation to acquire knowledge and skills and offers opportunity for this acquisition.

The unit should be so developed that interests, skills, habits, and attitudes fostered by it carry over into life outside of school. Is what the child learns useful to him in his home and his community as well as in his school life? The unit on child care would rank high on this criterion. It developed an interest in the younger members of the family, an attitude of helpfulness, skill in making clothing and in preparing food, knowledge about food, rest, and clinic service. All these may play a part in out-of-school life. Certain experiences that involve learnings of much practical value for the child in his out-of-school life may be provided in many units. Such experiences as using the library, reading for information, reading signs, finding the cost of what is used, taking care of playthings and materials, and using tools may well be incorporated in many units in which the child participates.

The unit should provide for the practical use of the tool subjects. Through the unit, a real meaning may be given to the mastery of tool techniques. The experiences of the unit should be so guided that the tool subjects are frequently called into use. The units on poultry, cement, and child care described in the preceding chapter indicated the need for reading, English, writing, computation, and measurement. Even the mentally retarded soon learn, if wisely directed, that reading is one way of finding out about things, that one must know how to measure accurately to get satisfactory results, and that it is desirable to spell correctly when writing a letter. To encourage in him such appreciation of the value of skills, the child should constantly be guided to see such relations as those between the ability to find the cost of materials and the ability to add and multiply, between writing an invitation and learning to spell, between going on an errand and learning to read street signs.

Units followed over a period of time should give opportunity for many kinds of experiences. Different units may call for such varied activities as excursions, the use of different mediums for construction and illustration, reading, the keeping of records or accounts, the writing of letters, figuring, and measuring. It may be noted that such variety was a feature of the three units described in the preceding chapter. The experiences in the school subjects or in creative handwork cannot be so many or so varied as they would be in units for average children, but they may provide for as much variety in the use of mediums and hand skills.

Selection of the Unit

The value of any unit may be determined by the degree to which it measures up to all these criteria. There is need for the teacher not only to choose units on the basis of valid criteria but also to apply these criteria as the unit progresses and again at its completion. She must continually challenge every unit of work in the light of its basic values. Such a policy thoughtfully followed over a period of years develops skill in choosing and developing units of work.

It is assumed that before the teacher settles on a unit of work she knows the community and the children in her class as thoroughly as possible—she knows their ages, their stage of development, their school and home histories. If the class is new to the teacher but has worked together before, their former teacher should pass on a report of their interests and past undertakings. If the group is newly organized, the teacher may have to discover the interests and capacities of the children. She will know in a general way what appeals to mentally retarded children of the ages of her group and the experiences they are capable of participating in. She may then place materials at their disposal for construction and illustration, show them pictures that may call out interests, take them for a walk and lead them to discuss what they see, watching all the time to learn what appeals to them and what situations seem to offer the greatest opportunity for learnings and growth.

When the teacher knows her group thoroughly, she will review carefully the attainments that the children are in need of developing—attainments in conduct, in personality, in the tool subjects, in health, in the social studies, and in science. This review will remind her of the goals for which the group should work. She will then decide on a problem that seems to be suited to the interests and abilities of her group and to offer opportunity for progress toward important goals. There will be several important steps that she must then take in preliminary planning of the unit. She must (1) consider the many different experiences that may grow out of the problem she has selected, (2) list the possible questions that the children may raise in connection with these experiences, (3) list the further experiences the children may undertake in attempting to find answers to their questions, (4) note where English, reading, writing, and arithmetic may be needed, what hand skills may be involved, and what meanings, concepts, attitudes, may be developed, and check those attainments from her first list, and (5) note what work supplementary to the unit may be required to realize attainments. The teacher will be likely to find that units centering around social studies and vocations will furnish the experiences essential to the carrying out of her plans. The fields of health and science will also contribute valuable problems for unit activities.

The individual teacher should work out a method of planning and analyzing units of work that is most practical and usable for her. The following outline should be helpful to teachers in planning the units of work reported in the following chapters.

TITLE OF UNIT

(State the number in the class, their chronological and mental ages.)

1. The setting: the need or interest and how it developed.
2. Possible attainments determined in view of pupils' abilities and their needs to strengthen previous attainments and develop new ones.
3. Possible problems or questions that may develop.
4. Experiences that may answer these questions.

5. Experiences that may be needed to supplement the unit.
6. Instructional materials that may be useful.

Note the recurrent use of the terms "possible" and "may." Preliminary plans for units of work are tentative and suggestive. They do not state the exact order or development of work. The initial plan is only a statement of possibilities; actual developments will be determined by the interests and needs of the group as they appear during progress of the unit.

Providing for Experiences

Successful teaching and successful learning are dependent on "child-experience." The teacher's job is to guide the child so that this experience is worth while. For convenience in discussing the planning and carrying out of a unit of work, it may be helpful to consider the experiences involved as of three types—the firsthand experience, the secondhand experience, and the experience of expression. In the actual classroom situation these are all interrelated and work together, but they are differentiated here to help the teacher analyze the means by which the children are learning under her guidance. These three types of experience will enter into any unit that is carefully chosen, planned, and carried out. The teacher, therefore, will find it helpful to consider to what degree she is making use of each of these three types of experiences in the classroom units of work.

Through *firsthand experience* the child has contact with real things. For example, he handles seeds, runs different kinds of soil through his fingers, waters the seeds, and watches the resulting growth in different soils. He watches a fish swim and observes the dilation of his gills. He visits the firehouse, the railway station, the docks, and the factory. These experiences are firsthand. They have come to the child through actual observation and handling of real things, not through pictures, reports, or reading. As stated previously, such direct contact with actuality is an absolute necessity for the slow child who usually lacks that power of sensory imagery or association that makes explanations about unknown and unexperienced things

intelligible. Firsthand experiences are not always possible, but wherever they are possible, it is the teacher's responsibility to plan for them. Only from many firsthand experiences can the slow learner come to acquire the meanings, concepts, and ideas by which he can understand those experiences that can come to him only secondhand.

Through *secondhand experience* the child sees a model, a picture, or some other representation of some object, or he hears or reads about it. Instead of actually watching a real fish, he sees a picture of one, and the teacher and some other person tells him how it swims and breathes. All children cannot see mountains, but they have seen rocks, trees, and hills and realize their height. This background of firsthand experiences can be utilized to help the child conceive the towering mountain that comes to him only as a secondhand experience.

The third type of experience is the *experience of expression*. If the child is getting many impressions from firsthand and secondhand experiences, he will want outlets for expression. The desire for self-expression is a natural one, and under teacher guidance an increasing number of opportunities for such experiences may be created. Expression wisely guided is a means of encouraging any child to check with firsthand experience to verify, clarify, and enlarge his concepts and ideas. Through the experience of expression, the child also gets some of what has been described as firsthand experience. For example, he learns the suppleness of the wood in his kite sticks, the strength of the nail, the durability of clay when it is fired, and so on. Through the experience of expression, the average child learns much. Through expression he clarifies his ideas. In illustration and in construction he makes the thing as he sees it and understands it. As he works, he is likely to express his ideas in words also. In play and dramatization, he imitates and represents toys, persons, and animals. Such learnings will accrue to the slow-learning child when he has sufficient firsthand experiences, and when his experiences of expression are wisely directed.

The three types of experiences described here are overlapping and represent only one method of classification. Other writers use different organizations. Edgar Dale, for example, sets up

a pictorial device titled "The Cone of Experience."¹ Beginning with "direct purposeful experience" at the base, each succeeding division on the cone represents a stage between the two extremes of direct experience and pure abstraction. The divisions are as follows: (1) direct purposeful experience, (2) contrived experiences, (3) dramatic participation, (4) demonstrations, (5) field trips, (6) exhibits, (7) motion pictures, (8) radio recordings and still pictures, (9) visual symbols, and (10) verbal symbols. It is obvious that the more direct experiences have their place in the education of the mentally retarded. Special-class teachers will find a study of Dale's text fruitful in any curriculum planning.

Firsthand Experiences. In the development of a unit the teacher should provide as many firsthand experiences as possible. It is amazing how much interesting and valuable reality the teacher may bring into the classroom. The children, given encouragement, will also make valuable contributions. A collection may soon be assembled of articles from nature—insects, fish, plants, twigs—of articles from different countries, and of articles made from different products and for different purposes. Whatever the subject of the unit, it is easy to have in the classroom much of the actual material that will give it meaning. Often a museum that lends exhibits to schools will be able to provide the teacher with much such valuable material for use in her classroom. Demonstrations of hobbies or crafts by parents or other adults are valuable.

Excursions and trips out of the classroom provide an extremely important source of firsthand experiences. For children of twelve or under there are many neighborhood trips that may lend enrichment and understanding to any unit of work. Older children may also profit from short trips. A walk of two miles to some interesting spot will not prove too much for them if they are really concerned with finding out about something. Although some schools furnish bus service for class excursions, by far the greater number of such trips can be taken on foot. The variety and extent of trips reported by special classes in a city

¹ Edgar Dale, *Audio-Visual Methods in Teaching* (2d ed.; New York: Holt, Rinehart and Winston, Inc., 1954).

system indicate how feasible this type of experience is for teachers who value it. (See trip reports, pages 218-220.) Attention is called to the frequent library and museum trips taken by all class groups as a means of establishing interests and habits that may influence the use of free time.

Class trips should be carefully planned, carried out according to plan, and followed up by the teacher and the class. A brief outline of steps in these activities may suggest to the teacher a method of procedure.

1. Planning: deciding on place to visit, direction, route, purpose.
2. Carrying out: plans for controlling conduct, making observations, asking questions, taking notes.
3. Following up: discussion, reports, cooperative or original stories, letters, a simple outline, questions to ask and to answer, reading, illustration, construction, a second trip.

Ways of following up the trips should be varied from one time to another. If the trip has been at all worth while, the children will want to talk about it, but they will not always want to write a story or a letter. The following excerpts from teachers' reports on trip values indicate the advantages they felt were attached to the excursions and the different methods of follow-up they used.

1. Our class is made up of twenty boys ranging in age from eleven years and ten months to fourteen years. Excursions were planned to occur about once a week during the progress of our unit on "The City." The work of the week usually developed in relation to the purpose of the trip and the information and impressions gleaned from it. The boys enjoyed the trips and considered them a real privilege. I explained that the Board of Education gave us the privilege of holding our class at the firehouse, for example, in order that we might learn at first hand about our community.

We aimed to go to the library once a month, and Miss H. and I planned ahead for stories, pictures, and so forth. Three of the boys became regular borrowers at the library.

I usually made some check on the trip. Very often on the bus trips each boy had a piece of tagboard and pencil with which he wrote in order the streets through which he went and returned. From these data he would make a map at school next day. Occasionally the boys wrote the names of the things they saw that they would like to know

more about. Then we looked these up in an encyclopedia. We found very interesting pictures. I simplified the description and told them a few facts about it. Sometimes I gave them "yes-no" tests and once I sent papers back to the librarian (following a library visit at which Miss H. had told them about the early history of their city). She was pleased and surprised that they did so well.

They wrote a letter to Mrs. P. at the museum to thank her for her hospitality, and still another to Mr. C. after a visit to the W. S. School, telling him which shop they liked best and why. I think the check on the trip is most important but needs to be varied from time to time.

The excursions encouraged better conduct, too. We frequently heard of someone who had seen us on our trip, and the boys came to feel that conduct in public places was very important.

I was quite surprised to note how much the parents approved of the excursions. I found my principal, too, became more interested in the work we were doing.

We gave up a plan to go to the museum at the new university because it seemed too far to walk and we could not get the bus. The boys were disappointed. One of the boys went by himself and returned with an interesting account for the class.

The boys and the parents consider the trips a part of the work because they realize to some extent how much profit has been derived from them.

2. Our class is made up of nineteen girls ranging in age from thirteen to sixteen years. Without doubt the trips were of great value to my girls, offering definite and concrete material for study. One trip gave an incentive for others, and they afforded new channels for recreation. *The trips to the museum stimulated visits to the library to gain more information.* After our first trip to the museum many girls wanted to visit the art gallery. This later trip took real planning because it was made after school hours and many of the girls had to rearrange their home duties. In some cases the girls and parents later made visits to the museum and the art gallery. These trips, too, increased the power of observation. Several times before the experience one heard remarks like this, "I have been there a lot of times," or, "What can you see there?" but before our return the same girl might comment, "Why, I never saw that before." I felt that as a result I knew my girls better. Several of the retiring girls asked questions or gave information about something particularly interesting to them.

After our trip to the Home Bureau exhibit, the girls realized that other people besides the teacher appreciated work done by hand. This same realization was apparent in their reactions to handwork at the museum. A few previously had belittled handwork, perhaps because of the attitude of their families.

3. A report of trips taken in one fall term by special classes:

PRIMARY AND INTERMEDIATE
CLASSES*For Nature Observation and Units
on Home and Neighborhood*

	Number of Trips
Art gallery	2
Bakery	2
Blacksmith shop	1
Book departments of two stores. .	1
Dairy	1
Department store (general visit). .	1
Dry-cleaning company	1
Election booth	1
Farm	6
Firehouse	3
Florist shop	1
Grocery store (neighborhood) ..	4
Hardware store	1
House construction	2
Laundry	1
Library	7
Lumberyard	1
Museum	10
Neighborhood (traffic, street signs, directions, nature study, etc.) ..	96
Parks	8
Pet shop	4
Playground	1
Poultry show	1
Private homes (pupils')	6
Public market	2
School buildings and grounds ...	15
School of Music	1
Seed store	1
Toyland (toy department of store)	3
Zoo	1

ADVANCED CLASSES

*For Nature Observation and
Units on Foods*

	Number of Trips
Better Homes exhibit	1
Farms	
General	4
Produce	1
Dairy	4
Farm implement company	2
Federal clothing exhibit	1
Food companies (wholesale, stor- age, and packing companies) ..	30
Food stores (retail, neighbor- hood)	29
Lecture	1
Library	17
Museum	20
Parks (nature study)	5
Public market	15
Railroad	4
University campus (nature)	3
Weather Bureau	2
Weathervanes (hardware store) ..	3

Some of the values to be derived from trips follow:

1. They enable the child to learn about his environment under direct teacher guidance. The teacher interprets to the child significant elements of his environment that would otherwise pass unnoticed by him.
2. They stimulate the child to observe and to question.
3. They stimulate and give meaning to activity of many kinds

in the classroom—discussing, making things, writing, reading, illustrating, and so on.

4. They are entered upon with enthusiasm and keenly enjoyed by the children.
5. They develop attitudes and habits conducive to the wise use of free time—habits and attitudes in relation to the use of libraries, museums, parks, observation of nature, etc.

The excursion as a firsthand experience deserves an important place in the education of the slow-learning child. Ample opportunity must be given every child for this or some other properly directed firsthand experience. No way of learning is as effective as firsthand experiences under teacher guidance.

Secondhand Experiences. Many pictures covering a wide range of subjects and topics are invaluable aids in teaching the slow child. They build up and reinforce many of the concepts and much information that the child has obtained firsthand. Every teacher should constantly be enlarging her own picture collection. She should be familiar also with illustrated texts on different subjects and with a wide choice of children's books that are graphically illustrated. For the purposes of this discussion, audio-visual aids which illustrate and relate life activities in a realistic manner may be classed as means of providing secondhand experiences.

The teacher should familiarize herself with the wealth of audio-visual materials that are available for her use. The term "audio-visual" is too often narrowed down to include only the tools and materials, such as radio, television, recorders, and films, which are the fruit of our scientific age. The scope of audio-visual education, however, embraces many different types of learning. Even methods of acquiring firsthand experience, such as trips, exhibits, and the collection of specimens, are kinds of audio-visual experience and have long been used by teachers.

The tools of audio-visual education which are being promoted today by state departments of education, university centers, and local school systems have special significance for the slow-learning child. They offer opportunities for introducing and reintroducing in various ways many life situations which

these pupils need to meet again and again. Some of these tools are listed below.

1. *Stereograph and Stereoscope.* The stereoscope, a lightweight hand instrument equipped with a lens for each eye, has long been used in homes and schools. A mounted photograph, or stereograph, when viewed through this device and properly focused, is seen in three dimensions. The newer types of stereoscopes are lightweight plastic instruments in which a disc or reel containing stereographic pictures is inserted. There is a wide choice of subjects for both the old and the modern type of instrument.

2. *Lantern Slide Projector.* This instrument can be used for both photographic and handmade slides. The material to be projected is reproduced on standard slides, $3\frac{1}{2}$ by 4 inches, $2\frac{1}{4}$ by $2\frac{1}{4}$ inches, or on miniature slides, 2 by 2 inches. A wide choice of commercial photographic slides provides the teacher with much material for helping children develop concepts in social studies and science that they cannot obtain firsthand. Etched glass slides, plastic slides, India ink slides, typed cellophane slides, colored pencil slides, and silhouette slides can be made by teachers and pupils. Such devices, used to illustrate stories and record trips and unit experiences, offer invaluable means of achieving various learnings. Pupils delight in seeing their work on the screen.

There are many kinds of lantern slide projectors. The *overhead projector* is used for projecting 10 by 10 inch cells or cellophane transparencies. The *overhead slide lantern* is so designed that the teacher can readily point out specific items on the screen without walking from the projector to the screen. As she sits or stands by the machine, she can use a pointer on the slide to direct the attention to a particular feature. The *filmstrip projector* is used for projecting a series of pictures printed on a strip of 35 mm. film instead of on glass slides. Filmstrips are available dealing with a wide variety of subjects. Captions and content lend themselves to timing and recurrence of experiences, necessary adaptations for the slow child. This machine is also designed to project miniature slides, 2 by 2 inches. The *opaque projector* is designed to reflect on the screen a page or picture

from a book, a photograph, post card, or any material on a flat surface 6 by 6 inches or smaller. It will also reflect specimens, coins, or similar objects. In some models, the size of opening is larger, measuring 8 by 10 inches. The latter size is good for reflecting pictures from magazines, encyclopedias, and so on without removing them from the source.

3. *Motion Picture Projector.* Since the educational films produced today generally have a sound track accompanying the film, the 16 mm. sound projector is the more widely used instrument in schools. The silent projector, also, uses 16 mm. film. The commercial motion pictures shown in the theater call for a 35 mm. sound projector. Schools that possess the larger instrument, however, use it for auditorium purposes only.

4. *Still Films with Recordings.* There are some still films, slides, and filmstrips for which accompanying tape or disc recordings are supplied. These recordings are played on the phonograph or playback while the pictures are being shown.

5. *Sound Recordings.* Audio materials—music, dances, stories, plays, speeches, and so on—are recorded by many different companies. But more significant for special education is the use of recordings for the particular needs of pupils and classes. Playing back recordings of the children's speech, rhymes, stories, dramatizations, reports, plays, and so forth offers opportunities for listening and sharing in communication and self-appraisal.

There are different types of *speech recorders*. Recordings can be made on plastic discs or tape or wire. The advantage of tape or wire methods is that the recordings can be played back immediately after they are made, using the same apparatus.

6. *Radio Programs.* The radio is, today, an accepted channel for education both in and out of the school. The developments of FM (frequency modulation), television, and facsimile broadcasting have extended its usefulness in education. Although the majority of "school-on-the-air" programs are designed for the grade pupil, some can be used effectively by the teacher of mentally retarded children. The special-class teacher, in addition, should provide her class with guided experiences in listening to commercial programs.

7. *Television.* Experiments with television for educational

purposes are under way. Although it is still not generally available in the school, the teacher should be familiar with commercial programs in order to understand the children's experience with television in the home. Observation of television programs available on educationally sponsored channels will give the teacher a helpful background when the time comes to consider or plan for the introduction of this medium in her school and classroom.

Every special-class teacher should have training in production of audio-visual aids for class use, as well as training in the operation of equipment and materials.

The purchase of both equipment and materials should be made with a definite purpose and be a part of a long-range program for the entire school or school system. The group and individual needs in any class, including the special education class, should be taken account of in such a plan. Not only the standardized equipment needed for the general school program, but also sufficient equipment and materials to satisfy the specialized program for the exceptional child must be obtained. Scheduling the use of the materials for different groups, sharing the equipment, and allocating some aids to certain classes for full-time use are necessary to insure utmost efficiency. Advice on the plan should be obtained from specialists in the state department of education, university and college centers, or city school systems.

The teacher will be concerned with sources from which teaching aids can be obtained. Motion pictures and strip films, for example, may be secured by purchase, rental, or free loan from many sources. The school should have access to the loan plan, if any, of the state department of education, and to the nearest film library. Every film library has its own catalogue.

References to books and articles which will aid the administrator, consultant, and teacher in using audio-visual materials are listed at the end of Chapter 13.

Experiences of Expression. When children have opportunity and are encouraged to relive their feelings, interests, and ideas, experiences of expression naturally develop. Such experiences now take the place of much of the routine handwork that, at one time, occupied a place in the curriculum for slow-learning chil-

dren. As the child attempts to express his ideas through various media and with different tools, he learns to observe detail more accurately and he finds out how things are made from what they are made, and how they work.

Many units offer extensive opportunity for graphic art and construction activity. Expression is encouraged by having ample materials at hand, many of which can be furnished by the children—paint, crayon, paper, cardboard, clay, plasticine, wood, boxes, cloth, spools, and so on—and simple tools with which to work. Adolescent boys and girls will require, in addition, homemaking and shop equipment of various kinds.

Importance of School Environment

Because the effectiveness of units of work depends to a great degree on the pupil's wholehearted participation and his attitudes of satisfaction and self-confidence, it is extremely important that the *schoolroom environment provide motivating interests and inspire wholesome enthusiasm.*

Current educational literature gives many examples of classroom work designed to serve these ends. There is also to be found occasional illustration of a formal classroom that has been adapted for informal work. From study of these examples, one may gain ideas for creating a stimulating classroom environment.

The most important features in the special-class room are movable furniture, as much clear floor as possible for activity, plenty of cupboard space for class supplies and the work of individuals, plenty of blackboard and bulletin board space, and tables for displaying articles. The equipment and materials for activities will depend on the number of children and their ages. The schoolroom should reflect a pleasant, homelike atmosphere free from any suggestion of restraint, with evidences of the children's interests and work but without cluttering or overcrowding.

Special-class activities should not be limited to the classroom, but the special class, as an integral part of the school, should have access to any general school facilities that are available—the

gymnasium, the music room, the art room, the swimming pool, the auditorium, the library, the home economics laboratory, the science room. (If the program of the special-subject teacher does not provide for work with special-class groups, the special-class teacher can usually arrange to take care of her class in these rooms in periods when they are not in use by other classes.) Every school facility should be available to the mentally retarded child to bring him satisfying and enriching experience.

Questions and Suggestions for Study

1. State the six criteria suggested for judging units for the mentally retarded. Would you add any others? Discuss your opinions fully.
2. Choose one of the units described in Chapter 11 and apply the six criteria to it.
3. State the three criteria that you consider the most important. Defend your choice.
4. Discuss the following question: Is there any difference between criteria to be applied to units for average children and to units for mentally retarded?
5. Discuss the opinion that the choice of a unit and the preliminary analysis of the possibilities in it are as important as the method of its development with the children.
6. Discuss the value of each of the steps in the teacher's analysis of the possibilities in a unit outlined on page 214.
7. Suppose that you are assigned to teach a special class of children twelve to fifteen years of age. Outline a plan of specific things that you might do to become acquainted with the group.
8. List all the firsthand experiences that your neighborhood environment offers to your class.
9. List ten secondhand experiences that a teacher of a special class may give children but which they might better have had firsthand.
10. One teacher of a primary special class listed the following places for visits within walking distance of her school:

Neighborhood park

Greenhouse

Child's home yard (garden)

University campus

Art gallery

Firehouse

Branch post office

Branch library

Dental dispensary

A theater

A church

Busy street corner

Railway bridge

Railroad grade crossing

Grocery

Market

A drugstore

A gas station

Department store

Apartment house under construction

- a) Plan a unit in which the first three trips might prove valuable.
 - b) Select four other trips and suggest how each might serve as a stimulus for a unit.
 - c) Select trips feasible for almost any class.
11. Discuss and illustrate the following statement by showing its application to the development of a unit of work with a special-class group: "There is no such thing as knowledge unrelated to experience. One may hear about other people's experiences, but unless one has something of one's own to relate this information to and test it by, it cannot have meaning and is of little value to the individual. The child must acquire knowledge by means of his own experience."

Reading References

See the list of reading references at the end of Chapter 13.

13

Carrying Out the Unit

When the teacher has chosen a unit, analyzed its possibilities for her particular class, and made a tentative plan for its development, how will she proceed with the children in developing it?

Developing the Unit

The teacher may stimulate class enthusiasm for any unit *through readings, pictures, excursions, suggestions, or any other means likely to promote interest and to create purpose on the part of the children.* At the outset of the unit on cement, the boys asked to make cement blocks. The teacher increased this interest by *placing on the reading table some books from a commercial cement company, by encouraging the children to talk about the pictures they found in them, to tell what they knew about cement, and to consider how they could make blocks in their classroom.*

The teacher's attitude and her manner of teaching are a large part in the success of any unit. The teacher must be a helper and a leader, not one who dictates. She must help the child to solve a problem that is a real one to him. To illustrate again from the unit on cement: the boys wanted to make cement blocks, and the teacher then led them to see that they must have certain information about making blocks before they proceeded. She did not dictate a method. She only guided the group in choosing

what they would do. She talked over matters with them to the end that plans and choices might have a real purpose. She helped her pupils to do things they had decided would help them to solve their problems. They found a cement factory near enough for them to visit, arranged a visit to it, visited a railroad siding to learn about the handling of freight, and got from the library books that would help them. The teacher who is accustomed to making plans for her children and directing activities in every detail may very easily fall into the error of attempting to dictate the experiences in a unit. Where there is such teacher dictation however, there is very little purposing done by the child.

The unit on poultry furnishes another example of how a teacher guided mentally retarded children in planning a unit, but allowed opportunity for effective purposing by the children. The problem of building a poultry house and raising chickens required a background of information and a consideration of plans. The teacher saw to it that stimulation for thinking and planning should grow out of experience. She posted on the bulletin board the announcement of a local poultry show and pictures of prize poultry. She brought in some poultry magazines and inquired of the children if they had any magazines to contribute. She immediately followed up the children's suggestion to visit a neighboring farmer who raised chickens. Out of the discussion that followed the examination of the materials they had collected and the visit with the farmer, there grew the formulation of plans to obtain information on such specific problems as the kind and number of chickens to be housed, the best location for the poultry house, its size, and the amount and kind of materials needed.

In making plans for a unit, emphasis must be placed on its tentative nature. As the unit progresses, the teacher changes, drops items out of, or adds to her tentative plan in order that the children's interests and needs may be served to the utmost. In the teacher's preliminary plan for the unit on cement, the trip to the railway and the study of freight were not listed; they were a natural outgrowth of the trip to the cement factory.

Any one of a number of activities carried on in the development of a unit involves skills and content from several subjects.

The work of any one period, for instance, may call into use English, reading, and social studies; the work of another period may involve discussion, number, and hand skills. When children are engaged in real-life situations, such as reading to get information or planning to build an object, they are bound to feel a need for the school subjects as they serve the problem under way. To illustrate again from the unit on cement: As the boys discussed the different kinds of freight cars and listed each on the blackboard with descriptive sentences, English, reading, and social studies were all in evidence. The teacher who would develop units with her classes must realize that in many situations subject divisions cannot be drawn and would not be important. Rather, she notes how subjects may be included and guides the work of the group in their use. The situations developed in the unit may provide valuable application for teaching the tool subjects. In the unit on cement, for example, the children made original number problems about the situation that had developed. The teacher also made problems for the children to solve. The children listed new words for which they wanted to learn meanings; and they listed words that they needed to learn to spell. They wrote original sentences or stories using these words. The best of these were chosen for their record books, which were taken home by the pupils at the end of the unit.

Providing for Unrelated Activities. There will undoubtedly always be work in progress in any class that is unrelated to the unit or major interest: periods devoted to the activities of a unit will take up only a part of the day. The need for periods devoted to the development of important specific habits, attitudes, and skills has already been noted. There is also the continued need for inculcating hygienic practices and for providing opportunity for games and rhythm and for the development of enjoyment of music and stories. There will also be activities evolving from the need to utilize incidental happenings in the life of the class. There may also be handwork, home economics, or shopwork going on that has developed from real needs and that is not a part of a larger unit. John's mother may need an ironing board; the girls may be asked to make curtains for the kindergarten or may be planning and serving meals for teachers' luncheons. There are

usually nature observations of the weather, the arrival of the early birds, the growth of bulbs, seeds, plants, and other phenomena in the natural environment. The teacher therefore makes provisions for other necessary activities when she plans a unit. The unit will not comprise all the activities of the pupils' day or develop without interruption.

Making a Record of the Unit. The teacher, when the unit begins, has before her her tentative plan. As the work progresses, she keeps a running record. She notes how interest was developed, how problems or questions were stated, and how *activities were first planned to answer the problems*. Then as the unit proceeds, she notes what is taking place and how one experience leads to another. She notes each experience and the learning elements in it. She notes growth or accomplishments for the class, for different groups, and for individuals. She keeps in mind the development of personality habits and attitudes as well as *subject-matter attainments*. She checks progress with her tentative plan. At the end of each day she inventories the day's work and considers the program for the following day.

At the end of the unit, it is desirable that the teacher make a summary covering the high spots in its development and listing experiences, attainments, or specific outcomes under *subject-matter headings*. This record and summary is not only a valuable account of the children's development, but it enables the teacher to decide what type of unit should follow. It indicates to her what educational purposes were furthered by the unit and those for which provision should be made in subsequent units. Record-keeping consumes time and energy, but it is decidedly worthwhile.

As the teacher gains experience in the making of records, this task will become less arduous. But she must in the beginning give careful thought to the forms and methods she will use. These the teacher should be free to arrange for herself.

The following are some of the important items that the teacher's record of a unit should include (see Chapter 14 for examples of teachers' records) :

1. How the unit began. Significant developments.
2. *Experiences or activities listed under subject groupings.*

3. The attainments or outcomes in terms of school subjects. Outcomes in personality and social habits and attitudes.
4. Materials and references.
5. Supplementary experiences and the resulting attainments in terms of health, school subjects, and so forth.

Providing for Participation by Children in Record-Keeping. Some of the record-keeping in connection with a unit may be carried on with the children's help. A very good plan for keeping daily records is to make a chart¹ that can be ruled off in columns—one for each day—heading the chart "Our Daily Record." Children and teacher decide what shall be entered at the completion of each day's work. Another plan is to make such a chart but give it a more specific heading—"What We Are Learning About Child Care," for example. Subject headings can be listed on the chart—reading, English, number, foods, and so forth. Information and attainments will then be listed under subjects and dates.

Each child should develop the habit of helping to make and to keep records that show improvement in conduct and mastery of the school subjects. He thereby gains a new interest in and understanding of his progress and that of the class. A unit of work offers many opportunities for this kind of record-keeping. The character of each unit and the special needs of each class situation will determine the form of the records to be used. The forms shown in Fig. 5 are illustrative of ones that may be developed with children at various age levels. These might, of course, be varied from group to group, and from unit to unit. The ones illustrated here were developed as wall charts that were kept posted in the schoolroom.

Each time work is put away, the child makes a check after his name on a chart such as that shown in Fig. 6. Any habit, of course, may be indicated in the heading—"I Came to School on Time," "I Hung My Wraps Carefully," "I Cleaned My Teeth This Morning." More than one such chart might be in operation at one time.

¹ Wrapping paper may be used. If heavy tagboard is used, with mounted corners to hold the caption and name cards, and colored pins to record achievement, the same board may serve many times.

I PUT AWAY MY WORK WITH CARE

NAME	M	T	W	Th	F	TOTAL	M	T	W	Th	F	TOTAL	M	T	W	Th	F	TOTAL
John																		
Mary																		

WHAT I AM TRYING FOR IN ENGLISH

	WEEK ENDING					
	March 5	March 12	March 19	March 26	April 2	April 9
To speak plainly and audibly						
To answer questions completely, not by just a word or two						
To tell something interesting						
To be a good listener						
To avoid interrupting						

I KEEP CLEAN





	JOHN	MARY	SUE	FRED	JANE	SAM
 FACE						
 HANDS						
 TEETH						
 CLOTHES						

Fig. 5. Forms for Children's Record-Keeping.

I PUT AWAY








	JOHN	MARY	SUE	FRED	JANE	SAM
 PAPER						
 SCISSORS						
 PASTE						
 PAINTS						
 BRUSH						
 HAMMER						
 SAW						

Fig. 6. Chart for Personal Record of Children.

One chart may cover several specific daily habits on one general subject. Pictures are silhouettes and titles may help the child keep these various habits distinctly in mind. Spacing may allow for two or four blocks to a name under each heading, each block big enough to allow room for five marks, representing a week's record. The chart may then show progress over a period of several weeks.

As children get older and develop ability to observe and record in greater detail, they may develop a wide variety of records. These may be kept on wall charts or in individual or class booklets.

Definite standards of attainment must be settled on for such records. Certain specific accomplishments may be recorded by symbols indicating various levels of achievement.

If it is desired to keep a record to show for the whole class such facts as those suggested in the second chart in Fig. 5, the spaces for records may be made large enough so that the initials of those who have practiced the attainments with some success may be entered in them. Arithmetic, written English attainments, and reading skills that allow for testing may be listed in the same manner with the children's names entered in place of weekly dates. Attainments may be indicated by checks or by blocks of color. Dates should always be entered in some way.

Bar graphs on squared paper to show progress on daily work or weekly tests may also be used.

Children also enjoy keeping charts of such facts as are suggested by the following titles of records actually kept by classes:

New Words We Have Learned
Stories We Have Read
Songs We Can Sing
Games We Like to Play
Community Trips We Have Taken
Maps We Have Made
Current Events We Have Discussed
Contributions to Our Science Collection

Such records define for both child and teacher the work of the class and give to it significance and purpose. They are a guide to the teacher in her development of the total program. From such records the child learns pride in accomplishment, which is as satisfying as, and of much greater educational value than, the pleasure he may derive from artificial rewards or from records that place emphasis on competition with other pupils.

Testing the Outcomes

The teacher will readily appreciate the value of tests that may serve as an aid in measuring progress toward the realization of those attainments she had set up in her preliminary plan for the

unit. Both informal and standardized tests may be used for this purpose. For suggestions, see tests given in Chapter 16.

At the close of a unit, it is a good plan to have some kind of informal checkup on what has been accomplished. The best kind of test for this purpose is one that attempts to appraise not only mastery of information but also children's attitudes and their ability to use what has been learned. Such tests are hard to devise for classroom use. The most commonly used are lists of questions to be read by the pupil and answered by him in writing. A child's answer in this kind of test may show that he knows what is the right thing to do in a given situation, but it does not necessarily indicate that he will act that way in that situation. For instance, children may be asked to check the well-balanced meals on a list of dinner menus submitted to them. That they choose the correct items in such a test is no indication that they will choose or plan menus in actual practice. All this test shows is that the child is aware of the character of a balanced meal. It is hoped that his actions will be directed by the knowledge, but there will be no evidence to indicate that they are or ever will be. Probably a better way to test the child's attainments in regard to eating habits would be to observe him in situations requiring the choice of foods under controlled conditions and to record his choices. Any records of teachers' observations of children's behavior are of course not entirely reliable, either; but since no way has yet been found for the teacher to test behavior objectively in actual situations, decisions must rest regarding pupil attainments on teacher observation and on the results of paper-and-pencil tests.² There is need for experimentation to develop objective tests that will give an accurate measure of children's habits and attitudes.

Some forms of tests that lend themselves to determining results from a unit of work are the "yes-no" tests and the com-

² Where children cannot read well enough to follow paper-and-pencil tests, an oral test may be used. For a test in foods given to boys of ages of approximately twelve to fourteen years (I.Q.'s of 53 to 75), the teacher divided her class into three groups that were tested in different ways. Group I read and answered in writing; to Group II the teacher read the test questions orally and the boys wrote the answers; in Group III the teacher read the questions to each boy, the boy responded orally, and the teacher recorded the responses.

pletion, matching, multiple-choice, and direction tests. The following are excerpts from tests of these various types:

OUR CITY

(For Pupils Aged 13 to 15 Years)

- I. Draw a line under the word that makes the statement true:
 1. Rochester leads the world in the manufacture of (automobiles, Kodaks, bicycles, airplanes).
 2. To reach the municipal arena, take a bus marked (South Avenue, Jefferson, Park, North Street).
 3. The New York Central Station is located on (North Street, Elm Street, Court Street, Central Avenue).
 4. The Genesee River flows into (Lake Erie, Black Creek, Lake Ontario, Atlantic Ocean).
- II. Place after each word in Column A the number that stands for the answer you choose from Column B.

COLUMN A

Lincoln Alliance
Cobbs Hill
Sagamore
Subway
Aqueduct

COLUMN B

1. Park
2. Route for trolley under ground
3. Route of canal across the river
4. Bank
5. Hotel

WHAT HAVE WE LEARNED ABOUT CLOTHING?

(For Pupils Aged 11 to 14 Years)

- I. The samples of cloth on the table are numbered. Write after their numbers in the following list the kind of cloth—rayon, cotton, wool, linen—that each is.

1. _____	4. _____	7. _____	10. _____
2. _____	5. _____	8. _____	
3. _____	6. _____	9. _____	
- II. Finish each of the following sentences with one of these words: wool, cotton, silk, linen, leather.
 1. The best handkerchiefs are made of _____
 2. Most men's suits are made of _____
 3. Knitted caps for winter wear are made of _____
 4. Our shoes are made of _____
 5. Sails for boats are made of _____
 6. Boys' shirts are made of _____

III. Write *yes* or *no* after each of the following questions:

1. Do people in warm countries wear more clothing than people in cold countries? _____
 2. Did people long ago weave cloth at home? _____
 3. Is most of the cotton in the United States grown in the North? _____
 4. Should woolen clothes be properly aired before they are put away for the summer? _____
 5. Do clothes wear longer if they are kept clean? _____
-

WHAT HAVE WE LEARNED ABOUT FOODS?

(For Pupils Aged 13 to 16 Years)

I. Place a G after the well-balanced menu:

- | | |
|---------------------------|--------------------|
| 1. Scalloped potatoes | 2. Creamed chicken |
| Rolls and butter | Baked potato |
| Boiled rice and marmalade | Carrots |
| Bananas | Fruit salad |
| | Milk |

II. Write the number 1 after each name of a food that gives strength for work and play.

Write the number 2 after each name of a food that builds and repairs the body.

Write the number 3 after each name of a food that regulates elimination.

You may write two numbers after one food.

- | | | |
|-------------|-------------|-------------------|
| Eggs | White bread | Lettuce |
| Potatoes | Bacon | Cabbage |
| Green beans | Milk | Whole-wheat bread |
| Carrots | Fresh fruit | Green vegetables |

III. Tell what trip you have enjoyed most this term.

Tell three things you learned from that trip.

IV. Answer the following questions on the map of the United States.

1. At top, bottom, and sides of the map write in their proper places the words *north*, *east*, *south*, and *west*.
2. Locate and name four of the following cities:

- | | | |
|-----------|----------|---------------|
| Rochester | New York | San Francisco |
| Buffalo | Chicago | Washington |

3. *Label four of the following states:*

Florida	California	Pennsylvania
Texas	New York	Ohio

4. *Locate, by writing the name of the food on the map, regions that any four of the following foods come from:*

Wheat	Pork	Oranges
Corn	Beef	Salmon

Planning the Daily and Weekly Program

It is important that the school day be so arranged that activities are distributed wisely and each given a proper amount of time. The daily and weekly schedule should provide for periods of time sufficiently long to allow experiences to develop naturally and to continue as long as interest and need warrant. Short five- and ten-minute periods for activities are not advisable for any child, much less for the mentally retarded child who takes longer to orient himself in any situation than does the average child.

Just as the plan for any unit must be tentative, the plan for the daily program also should be somewhat tentative. The teacher should be free to vary the program as the need arises. The percentage of time of any day spent on any one activity may need to be adjusted to fit individual needs. She should keep in mind, however, that special-class children need a certain amount of regularity, perhaps more than average children. There are also certain activities that must come at regular stated times on the program: periods for midmorning lunch; periods for the use of special rooms like the gymnasium, library, home economics laboratory; periods in which a special-subject teacher comes into the classroom. In addition, it is well to have stated times for discussing and planning work; for the development of language arts, number ability, and manual activities. It is advisable to keep the periods for the development of the tool subjects as regular as possible. Consideration must be given to the fact that special-class children and their parents are often sensitive to any program that appears to omit the tool subjects. They respect these as essential elements of an educational program, and want

training in them. It may not be out of place here to suggest that, because of this attitude, parents should be helped to see the many ways in which their children are learning reading, English, and number skills through the experiences of a unit.

The ideal program will allow for informal periods during which children and teacher can exchange experiences and talk over plans for their work. One of these periods at the beginning of the day will provide time for the teacher and her class to discuss what has already been accomplished in the unit under way, what the next steps should be, and what the definite plans for the morning's work are. When they have a vital interest in their school activities, mentally retarded children, like any other children, can participate in planning their daily work. Frequently, there should be "get-together periods" at the close of the day when work is judged or evaluated, accomplishments are summed

TABLE 10

APPROXIMATE ALLOTMENT OF SCHOOL TIME FOR ACTIVITIES IN SPECIAL CLASSES

	Primary-Intermediate		High School	
	Minutes per Week	Per Cent of Time	Minutes per Week	Per Cent of Time
Informal Conference Periods	150	9.8	200	12.5
Trips, Observations, and Other Audio-visual Aids (home and community life, science, industries, etc.)	325 to 350	22.2	300	18.75
Creative and Constructive Work or Industrial and Practical Arts	325 to 350	21.3	450 to 500	28.1
Health, Play, Recreation, Rhythm, Music, Etc.	350	22.2	300	18.75
Use and Practice in Basic Subjects:				
Language Arts	300 to 350	18.3	250 to 300	15.6
Number	50 to 125	6.2	100 to 125	6.3
Total School Time	1,500 to 1,650	100%	1,600 to 1,725	100%

up, and children rate themselves on results. The ideal program should always allow time for the children to discuss with the teacher the work they must do, when and how they will do it, and the progress they are making toward definite goals.

An approximate allocation of minutes per week to various types of activities is suggested in Table 10. This schedule is intended only to suggest different kinds of activities and the time that might well be given to each, for such a schedule would be modified for any particular group. A plan and overview for both weekly and daily schedules enable the teacher to consider a balance of varied kinds of learning activities.

The following account of two days' work in a primary class made up of pupils aged seven through ten years illustrates program planning and a natural sequence and balance of activities.

FIRST DAY

A.M.

- 8:45- 9:00 Children come in informally, remove their wraps, and follow their own interests, i.e., greeting one another, relating experiences, looking at picture on the bulletin board illustrating safety devices and showing types of homes, going about their classroom responsibilities—caring for plants, bird, dusting, and so forth.
- 9:00- 9:35 Children assemble at their own places. Attendance is taken by a student and posted on the bulletin. An informal health checkup is made. Children share home and neighborhood experiences and choose those items that will be written for their paper *The Morning News*. Songs are suggested and the children gather around the piano to sing them.
- 9:35- 9:50 Teacher and children plan for the day, including a neighborhood trip to see a new house under construction. The teacher writes an outline of the day's plan on the blackboard.
- 9:50-10:20 Stories.
- 10:20-10:35 Midmorning lunch and rest.
- 10:35-10:50 Games and rhythm.
- 10:50-11:40 Reading activities: class and independent work planned for the development of basal vocabulary and reading skills. One group carries on oral reading to another group. Children in a prereading group play independently in play corner.

FIRST DAY**P.M.**

- 1:00- 1:50 *Greetings and preparation for the trip. Short trip to see new house in building and workmen on the job.*
- 1:50- 2:10 *Health teacher joins the group on the playground for outside games.*
- 2:10- 2:30 *Discussion, dramatization, and cooperative story developed around the experience of trip to new house. Four pupils of prereading group make illustrations.*
- 2:30- 3:15 *Constructive activities. Planning the layout of a house on the classroom floor—its size, rooms, and so forth—and assembling building blocks and allotting work.*
- 3:15- 3:30 *Clearing up and evaluating. Children put their materials away and get the room ready for closing. They then assemble to review the day's work and accomplishments and to discuss activities for the next day.*

SECOND DAY**A.M.**

- 8:45- 9:00 *The children come into classroom informally (see yesterday's program). Today there is a sharing of paper, boxes, and wood brought in for building the house.*
- 9:00- 9:40 *Children assemble at their places to begin the day's work. Attendance is taken and an informal health checkup is made. New items, including a listing of contributions for building the house, are written out. The children join in singing. Work is planned for the day. The preparation of a classroom describing the trip and containing illustrations and stories is scheduled for the next period.*
- 9:40-10:20 *Reading activities: class work for the younger group on the vocabulary and sentences used in the cooperative story of the experiences of the previous day. Two older groups read selections from "Our New Friends" and "Friends and Neighbors" (Curriculum Foundation Series; Chicago: Scott, Foresman & Co.)*
- 10:20-10:35 *Midmorning lunch and rest.*
- 10:35-10:50 *Games.*
- 10:50-11:15 *Proportions of the house are discussed. Certain children were given individual help in measuring. Board and seat work on number skills.*
- 11:15-11:40 *The children listen to the story of "The Enchanted Playhouse" read by the teacher.*

SECOND DAY

P.M.

- 1:00- 1:30 Reading of poems and singing. Reading selections from the class paper *The Morning News*, and "The Story of Our Trip."
- 1:30- 1:50 Listening to and carrying out rhythm steps for a new dance under the direction of the music teacher in the music room.
- 1:50- 2:05 Games and rest.
- 2:05- 2:25 One group works on illustrations for the booklet "Building a New House" while another group prepares one-sentence stories for the booklet.
- 2:25- 3:15 Continuation of constructive activities for "house-building."
- 3:15- 3:30 Cleaning up; a review of what has been accomplished and a discussion of the next steps to be taken.

Organizing Working Groups

The class as a whole will work together in many of the activities of the unit. But the range of mental levels and levels of accomplishment in the tool subjects certain to be found within any one class makes it advisable to divide the children into groups for at least part of their work. The programs outlined here, it will be noted, provide for such groupings. The pupils in a special class in a city community with a three- to five-year age range usually fall into three or more groupings in the tool subjects. The class in the small community where the age range is wider may require more groupings.

Grouping children is a means of bringing together those learners who can best work together so that optimal growth will result. The teacher may group her pupils on the basis of their abilities for the tool subjects and then plan work designed to further the attainments for which they are ready, keeping in mind individual needs within the group. (At times, of course, she may want to plan the work on a wholly individual basis.) Groupings in the tool subjects should be flexible at all times so that the learner can readily move to another group that may meet his needs better. In certain activities related to health, sci-

ence, and social studies, all pupils may pursue a common interest, each participating and benefiting according to his individual ability. Other activities, such as an illustrated project, construction, recreational reading, or visits to other class, will call for a grouping which is related to the particular task. Such activities promote the recognition of different abilities and the wider social acceptance essential for the sound adjustment of these children.

The nature and arrangement of the daily program and working groups are important factors in satisfying the child's needs for security and a sense of achievement and can be the means of making him realize that the teacher and children respect his ideas and interests and that he has a contribution to make to the group. Situations are set up in the classroom to provide experiences in cooperative living. Children have the opportunity of sharing the responsibility for the care of the room and materials, for standards of conduct, and for planning and carrying out group enterprises and individual tasks. Attention should be given to the social adjustments of the individual in the group, as well as to individual growth in skills. The goals for each child are the development of a sense of personal worth, a measure of self-control and cooperation, and a respect for authority, to be achieved as he participates in a social group.

Questions and Suggestions for Study

1. Discuss some of the values that should accrue from a unit for primary-school children.
2. Why must a good unit plan always be tentative?
3. Discuss the values of a number lesson based on activities in a unit as compared with one based on a page of unrelated problems in the arithmetic book.
4. Discuss and illustrate, "The successful development of a unit depends on guidance to bring about worthwhile experiences. It means that the teacher challenges and weighs the values of what is happening at every step of the way."
5. Make a plan for keeping a report of a unit as it develops in a classroom.
6. Discuss a plan that allows each child in the group to keep a record of his improvement (*a*) in spelling, (*b*) in number.
7. Sometimes a teacher wishes to encourage a group of children to utilize their time between bells in a profitable way. Devise a chart

that might be helpful in such a situation. Suggest the ages of the members of the group for whom it is planned.

8. Draw up a suitable weekly program for a class made up of adolescents and preadolescents.
9. What advantages does a weekly program have over a daily program?
10. Give three instances from your experience of changing the daily program as the need arises.

Reading References

Unit Development

BLOUGH, GLENN O., and BLACKWOOD, P. *Teaching Elementary Science*. Washington, D.C.: Government Printing Office, 1948.

Gives practical suggestions for teaching science in the elementary schools; suggestive for unit development.

HANNA, LAVONE; POTTER, GLADYS; and HAGAMAN, NEVA. *Unit Teaching in the Elementary Schools*. New York: Holt, Rinehart and Winston, Inc., 1955, pp. 126-53, 288-313.

On pages 126-53 are described the development of a unit of work with criteria for selecting a unit, ways of initiating it, suggestions for developing activities, and the culmination of the unit. On pages 288-313 are discussed the opportunities that the unit offers for the use of the basic skills. Gives descriptions of units developed by teachers.

HILLARD, PAULINE. *Improving Social Learnings in the Elementary School*. New York: Bureau of Publications, Teachers College, Columbia University, 1954.

Gives examples of concrete material for guiding children in improving the quality and meanings of experiences in the child's own environment.

MARTEN, ELISE H. *Group Activities for Mentally Retarded Children—A Symposium*. (Bulletin No. 7.) Washington, D.C.: Government Printing Office, 1933.

Teacher reports of centers of interest or units as they developed in the classrooms. Out of print but available in libraries.

MICHAELIS, JOHN V. *The Student Teacher in the Elementary School*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1951, pp. 112-49.

Discusses general aspects of unit planning with attention given to objectives, variety in activities, goals and evaluation, and initiation and culmination.

ROTTER, GEORGE E. (ed.). *Planning for Mentally Handicapped Children in Nebraska Public Schools*. Lincoln, Neb.: State Department of Education, 1957, pp. 32-93.

Presents suggested techniques for teaching mentally retarded

children. Gives sample units to illustrate teacher-pupil planning and development in the classroom.

STRICKLAND, RUTH G. *How to Build a Unit of Work*. (U.S. Office of Education Bulletin No. 5.) Washington, D.C.: Government Printing Office, 1946.

Describes unit organization as to choice, sources, planning, and development at three levels of the elementary school; of special value to the classroom teacher.

Suggested Activities for Mentally Retarded Children. Sacramento, Calif.: State Department of Education, 1952.

Teachers' descriptions of unit activities centered around life activities of the retarded child.

WINGO, MAX, and SCHORLING, RALEIGH. *Elementary School Student Teaching*. New York: McGraw-Hill Book Co., 1955, pp. 176-200.

Modern trends in planning include giving teachers more freedom in planning, giving greater emphasis to integration in learning, and giving more attention to evaluation as a part of the total process of planning, teaching, and learning. Discusses planning of unit.

WOFFORD, KATE V. *Teaching in Small Schools*. New York: The Macmillan Co., 1946, pp. 115-38.

Discusses organization of unit plan, giving examples on each characteristic, the bases for unit work, and the various steps necessary in a unit plan.

Audio-visual Education

DALE, EDGAR. *Audio-Visual Methods in Teaching* (2d ed.). New York: Holt, Rinehart and Winston, Inc., 1954.

Promotes a better understanding for the theory of audio-visual instruction, the materials for this method and their application. In its broad interpretation of the nature and uses of many different kinds of audio-visual aids, it serves as an excellent reference.

HASS, KENNETH B., and PACKER, HARRY Q. *Preparation and Use of Audio-Visual Aids* (3d ed.). Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956.

Presents the technical nature of making and using audio-visual materials. Detailed step-by-step procedure for making useful teaching aids is given.

MAHONEY, AGNES, and HARSHMAN, H. L. "Sound-Film Experiment With Handicapped and Retarded Pupils," *Educational Screen*, 28 (Dec., 1939), 359-60, 373.

Reports a teaching-learning experience carried out in the classroom with sound film.

NELSON, LESLIE W. *Instructional Aids*. Dubuque, Iowa: William C. Brown Co., 1958.

Contains hundreds of ideas for instructional materials which can be made easily by the teacher and pupils; very well illustrated.

SAND, LESTER B. *Audio-Visual Procedures in Teaching*. New York: The Ronald Press Co., 1955.

Extensive listing of audio-visual materials. Each type of audio-visual aid is set forth in a separate chapter, with full analysis of its uses, possibilities, and limitations. A graded presentation.

Arts, Crafts, Practical Arts

COX, DORIS, and WARREN, BARBARA. *Creative Hands* (2d ed.). New York: John Wiley & Sons, Inc., 1951.

Offers direct methods of procedure in a wide variety of crafts.

FRYKLUND, VERNE C., and LABERGE, ARMAND J. *General Shop Woodwork*. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1947.

An over-all view of woodworking, tools, and processes.

GAITSKELL, CHARLES D., and GAITSKELL, MARGARET R. *Art Education for Slow Learners*. Peoria, Ill.: Chas. A. Bennett Co., Inc., 1953.

Discusses art education for retarded children and presents observations and conclusions from a three-year study of the activities of 575 children.

GRISWOLD, LESTER. *Handcraft: Simplified Procedure and Projects*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1952.

Twelve areas of handcraft are covered in a step-by-step procedure with more than six hundred illustrations.

HARRIS, FLORENCE L., and KAUFFMAN, TREVA E. *Young Folks at Home*. Boston: D. C. Heath & Company, 1948.

Introduces eight units appropriate to the home life and problems of teen-agers. Specific and direct, the unit can readily be adapted for slower pupils.

KOENIG, FRANCIS G. "Implication in the Use of Puppetry with Handicapped Children," *Journal of Exceptional Children*, 17 (Jan., 1951), 111-12, 117.

A teacher's account of puppetry and its values in a classroom of retarded children.

LOWENFELD, VIKTOR. *Creative and Mental Growth*. New York: The Macmillan Co., 1950.

Emphasizes the creative production of children in respect to their mental and emotional development. Art for the handicapped is included.

NEWKIRK, LOUIS V. *Integrated Handwork for Elementary Schools*. New York: Silver Burdett Co., 1940.

Continues to be one of the better references for integrated and purposeful handwork.

STEVENSON, ELIZABETH. *Home and Family Life Education in Elementary Schools*. New York: John Wiley & Sons, Inc., 1949, pp. 79-272.

Presents experiences in personal, home, and family life of the growing child; helpful in defining learning sequences appropriate to age levels.

Music, Health and Physical Education

ANDREWS, GLADYS. *Creative Rhythmic Movement for Children*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1954.

Suggestive and well-illustrated for various kinds of rhythmic experience.

GROUT, RUTH E. *Health Teaching in Schools* (2d ed.). Philadelphia: W. B. Saunders Co., 1953, pp. 131-222.

Includes methods and techniques of health teaching and evaluation of health education practices. Can be adapted to mentally retarded children.

LA SALLE, DOROTHY. *Guidance of Children Through Physical Education* (2d ed.). New York: The Ronald Press Co., 1957.

Includes games for grades one through six. Helps teachers relate a program of physical education to life situations.

———. *Rhythms and Dances for Elementary Schools* (rev. ed.). New York: The Ronald Press Co., 1951.

A comprehensive collection of music fundamentals, music characterizations, singing games, and folk dances.

MILLER, ANN. "Growing with Music: A Program for the Mentally Retarded," *Exceptional Children*, 20 (Apr., 1954), 305-10.

Discusses the need for and values of music with suggestions for a program for retarded children.

NAMENY, GRACE W. "Inaugurating a Music Program for Mentally Retarded," *Exceptional Children*, 15 (Feb., 1949), 134-38, 160.

Music fills a need for which every teacher should plan.

NEILSON, N. P., and VAN HAGEN, WINIFRED. *Physical Education for Elementary Schools* (2d ed., rev. print.). New York: The Ronald Press Co., 1959.

A graded program of activities for grades one through eight, including for each grade dance activities, hunting or active games, relay races, stunts, and athletic games.

SALT, E. BENTON; FOX, GRACE; and STEVENS, B. K. *Teaching Physical Education in the Elementary School* (2d ed.). New York: The Ronald Press Co., 1960.

A program of activities for the first six grades. Includes small group games, large group games, team games, classroom games, stunts, and dance activities.

SCHLOTTER, BERTHA E., and SEVENDSEN, MARGARET. *An Experiment in Recreation With the Mentally Handicapped*. Springfield, Ill.: State Department of Public Welfare, 1951.

Activities and games are classified in several ways, and approximate minimum mental age required for satisfactory participation is given.

SMITH, HELEN NORMAN, and WOLVERTON, MARY E. *Health Education in the Elementary School*. New York: The Ronald Press Co., 1959.

Deals with curriculum planning, subject matter, and sources of materials for the first six grades. Contains detailed descriptions of eighteen tested teaching units and an explanation of unit planning in health education.

Together We Sing Series (Song texts and records). Chicago: Follett Publishing Co., 1956.

Sources

Supply Houses*

- Children's Music Center
Los Angeles 6, Calif.
- Creative Playthings, Inc.
New York 3, N.Y.
- Ideal School Supply Co.
Chicago 20, Ill.
- Judy Co.
Minneapolis 1, Minn.
- Milton Bradley Co.
Springfield, Mass.
- Model Publishing and School Supply Co.
St. Louis 12, Mo.

Publishing Houses*

- Benefic Press
Chicago 39, Ill.
(Children's booklists)
- Children's Press, Inc.
Chicago 7, Ill.
(Children's booklists)
- The Continental Press
Elizabethtown, Pa.
(Independent workbooks in skill subjects)
- The Garrard Press
Champaign, Ill.
(Dolch materials)
- D. C. Heath & Co.
Boston 16, Mass.
(Text films)
- The Steck Co.
Austin 61, Tex.
(High-interest workbooks)
- Wheeler Publishing Co.
Chicago 11, Ill.
(Remedial aids)

* Teachers should send for current catalogues.

by the skillful selection of the most appropriate learning experiences.

Unit Centering About Music

The first unit reported here was developed in a primary special class of children of ages from eight years, six months to eleven years, eight months chronologically, with mental ages of from approximately six to eight years. These children, the majority of them of Italian descent, were listening with great pleasure to the broadcasting of a series of concerts given by the Rochester Civic Orchestra. (These weekly broadcasts for school children were part of a civic undertaking to provide better music for the community.) Pupils in the fourth grade and above were given the opportunity to hear these in school. The pupils of this group loved music, and they were fortunate in having a teacher who shared this feeling. Attentive listening to the concerts and later discussion of what had been heard led to expression in the class of rhythm in dancing, to spontaneous fashioning of musical instruments in plasticine and paper, and to graphic interpretation of favorite selections. Following their radio experience, the children were allowed freedom to give expression to what they had heard and felt. The teacher saw in this expression an interest that would serve as a drive toward many worthwhile learnings. She planned with the children and executed accordingly.

The teacher's first step was to make a tentative plan of the possibilities in a unit centered on this interest. She considered the individual children and the several ability groups in the class as to their learning needs—their various levels of achievement in social studies, music, oral language, reading, writing and spelling, arithmetic, and hand skills and related arts. With these in mind she first outlined the attainments that seemed to her most important for the development of the children. She broke down the attainments in language, writing, reading, and arithmetic at three different levels: Group I, children from eight years and six months to ten years and ten months of age chronologically, approximately six to six and one-half years men-

tally; Group II, nine years and six months to eleven years and eight months chronologically (two children had vocabulary difficulties), approximately six and one-half to seven years mentally; and Group III, eleven to eleven and one-half years chronologically, and from approximately seven to eight years mentally. She gave consideration to individual needs within the groupings, personality needs as well as skill needs. In hand skills and related arts she outlined the attainments for two different groups: Group A, chronological ages eight years and six months to ten years; and Group B, chronological ages eleven years to eleven years and eight months. She then noted problems that had arisen from the children's interest in music, and listed experiences that might help them solve these problems at the same time that they provided for development of many of the needed attainments.

In making her summary report of the actual development of the unit the teacher followed the outline of her original plan. She noted the attainments that had been at first chosen as goals and appraised the unit in terms of progress toward them.

The original plan, though considered only as tentative, enabled the teacher to be definite in her own thinking as to the children's needs and to be ready to direct the children to experiences that would satisfy their interests and at the same time bring about the types of development they most needed. The plan, moreover, served as a measure of the children's progress as the unit developed. The unit was never circumscribed by a rigid preconception of what it should be. Progress was a natural evolution, directed by the conditions and needs of the pupils. The original plan was only a guide, always flexible enough to suit the needs and opportunities of actual circumstances.

The outline which follows is a reproduction of the teacher's comment upon the setting, her list of attainments (she wished to strengthen those already achieved as well as develop new ones), her notes on problems and experiences, and her summary report.

SETTING

This class attended several radio concerts given by the Rochester Civic Orchestra. The first concerts introduced the various instruments used in the orchestra. The children became interested in these

and modeled bassoons, flutes, violins, and other instruments from plasticine, cut out French horns from paper, and painted pictures on the easel interpreting favorite selections. A set of chimes was made from bottles. On these, many tunes have been learned. The children are now begging for an orchestra of their own and for permission to play in assembly. This unit is planned to satisfy both these desires.

ATTAINMENTS THAT MAY BE DEVELOPED

Habits and Attitudes Needed in Many Life Situations

1. Obedience to general rules of classroom and school, and to law.
2. Attention to work at hand.
3. Cooperation with teacher and with other children.
4. Individual responsibility in beginning and carrying out tasks.
5. Courtesy and politeness to other members of class, to visitors, and to others with whom the children come in contact.
6. Perseverance in undertakings.
7. Good humor—acceptance of criticism.

Health

1. Knows the need for sanitation in using the instruments.
2. Realizes the need for cleanliness of the hands in handling instruments and music.
3. Knows the need for proper light on music to save eyestrain.
4. Realizes the importance of neat clothes for public performers.

Social Studies

1. Knows something about instruments used by people long ago.
2. Knows something about how instruments of long ago are like those used today.
3. Knows that there are stores that sell only music.
4. Knows that these music stores are located in the downtown districts of the city.
5. Knows how to reach the Eastman School of Music. Knows its location in the city and how to reach it from school.
6. Knows that many men and women go to the school to study music.
7. Realizes the variety of kinds of instruments that the students learn to play.
8. Knows something about different kinds of materials that musical instruments are made from.

Music

1. Recognizes different kinds of music.
2. Enjoys good music; stimulates interest in music broadcasts.
3. Expresses emotions through rhythm.

Oral Language

GROUP I

1. Contributes simple statements to group discussion of experiences and to cooperative group stories.
2. Allows others to complete their remarks without interrupting.
3. Addresses others in a kindly tone.
4. Shows interest and participates in the simple dramatization of an experience that is of general interest to the class.
5. Enjoys telling and hearing others tell favorite stories or poems.

GROUP II

1. Makes contribution to the discussion of experiences.
2. Shows improvement in expressing ideas in complete sentences.
3. Enjoys the dramatization of familiar experiences.
4. Recognizes in written expression such language forms as (a) capital letter for own name, (b) capital letter at beginning of a sentence.
5. Enjoys telling and hearing others tell favorite stories or poems.

GROUP III

1. Makes contributions to the discussion and carrying out of experiences.
2. Uses three or four sentences in giving a simple report or original story.
3. Answers questions so that he makes his meaning clear.
4. Helps in planning and carrying out dramatization.
5. Makes use of capital letter for (a) own name, (b) beginning of sentence, (c) pronoun "I."
6. Makes use of period at end of statement.
7. Copies notes of invitation, thanks, and so forth, cooperatively composed by class and teacher.
8. Addresses envelopes for above.
9. Enjoys telling and hearing others tell favorite stories or poems.

Reading Habits and Skills

GROUP III

1. Reads silently first what is to be read orally.
2. Shows comprehension by grouping related words.
3. Reads aloud distinctly.
4. Desires to read a story because of interest in the pictures.
5. Answers oral questions pertaining to the text.
6. Answers short written questions pertaining to the text.
7. Reads titles of books.
8. Uses table of contents to find a story.
9. Enjoyment in simple books stimulates the desire to read independently.

GROUP II

1. Reads silently first what is to be read orally.
2. Shows comprehension by relating words instead of reading word by word.
3. Reads aloud distinctly so that the rest of the class may hear without difficulty.
4. Desires to read a story because of interest in the pictures.
5. Answers oral questions pertaining to the text.
6. Finds enjoyment in books through studying the pictures and attempting to read simple sentences and familiar words of stories and poems.

GROUP I

1. Arranges picture stories in sequence.
2. Reads from board and charts simple stories about his own interests.
3. Enjoys making his own book of pictures and stories.
4. Associates twenty to fifty words with their symbols.
5. Reads simple directions from the board.
6. Finds enjoyment in books because of the power of the pictures to tell the story.

GROUP III

1. Increases their reading vocabulary through (a) cooperative stories, (b) familiar songs and poems.
2. Recognizes when presented in different context words that occur most frequently in stories in basal text.

GROUP II

1. Reads from board (a) simple directions and notices, (b) cooperative stories, (c) familiar songs and poems.
2. Recognizes when presented in different context words that occur frequently in stories in basal text.

Reading Vocabulary

Writing and Spelling

GROUP I

1. Maintains good position.
2. Shows gradual improvement in tracing letters.

GROUP II

1. Maintains good position.
2. Shows improvement in formation of words and letters.
3. Spells very simple words needed in written work.

GROUP III

1. Maintains good position.
2. Makes capitals and small letters and writes words without a copy.
3. Masters basic words needed in written work.

Arithmetic

GROUP I

1. Senses value of 1 and 5.
2. Counts in sequence twenty or twenty-five objects.
3. Increases ability to know left and right.

GROUP II

1. Senses value of 1, 5, 10.
2. Knows that long hand of clock or watch indicates the half hour.
3. Counts in sequence to 50.
4. Increases in understanding of such concepts as (a) here—there, (b) near—far, (c) wide—narrow.

GROUP III

1. Appreciates value of fifty cents.
2. Appreciates value of small pieces of money and makes change.
3. Tells time accurately by hour, half hour, quarter hour. Knows divisions of time, such as minute, day, week.
4. Reads and writes numbers to 1,000.
5. Knows how to subtract three-place numbers with all kinds of borrowing.

4. Recognizes the most common instruments of the orchestra and how they are used.
5. Recognizes five or six compositions, giving name of each.
6. Lives more happily because of the joy music brings.

Hand Skills and Related Arts

GROUP A

(Chronological Ages 8 Years and 6 Months to 10 Years)

1. Handles scissors correctly.
2. Traces and cuts to line.
3. Folds for even edges.
4. Knows rainbow colors.
5. Pastes carefully.
6. Uses clear colors in painting.
7. Molds simple cylindrical forms in plasticine and clay.
8. Begins to learn to saw to line.
9. Holds hammer correctly.
10. Wears thimble.
11. Threads needle.
12. Does running stitch.

GROUP B

(Chronological Ages 11 Years to 11 Years and 8 Months)

1. Selects suitable pictures.
2. Measures accurately inch and half inch.
3. Cuts simple letters.
4. Gets some degree of balance and arrangement into book covers and posters.
5. Combines two harmonious colors with a neutral.
6. Folds for even edges.
7. Pastes carefully.
8. Expresses ideas in mass drawings of objects.
9. Uses clear colors in painting.
10. Expresses ideas by modeling from a single ball of plasticine or clay.
11. Recognizes good points in form and construction of modeling.
12. Develops skill in sawing to line.
13. Knows how to use sandpaper.
14. Fits parts together and fastens them with glue or nails.
15. Applies stain and shellac.
16. Paints surfaces evenly.

17. Wears thimble.
18. Applies simple pattern to cloth and cuts by it.
19. Uses a measure in folding hem.
20. Uses hemming stitch and backstitch.

PROBLEMS AND EXPERIENCES THAT MAY BE DEVELOPED

Questions That May Be Raised

- Where can we see some of the instruments of the orchestra? Can we visit a music store? What is the Eastman School of Music? Can we hear and see these instruments played? How can we form an orchestra? What instruments will we make? What will we make them of? Can we use our orchestra to entertain the school?

Experiences That May Furnish Answers

- Excursions to a music store and the Eastman School of Music. Planning of trips. Discussion of safety; of behavior on street, in store, and in the music school; of politeness to clerks and attendants; of what to look for in the stores and in the music school.
- Checking, upon return, the results of the trips: instruments seen, posters seen, store displays.
- Inviting various people to entertain us with music, and acting as host to them: Miss T., singing; school orchestra, with violin, flute, cello, trumpet, piano; Miss S.'s class from a nearby school with their toy band; Mrs. D. and her orchestra, with saxophone, banjo, drum, traps, piano, trumpet.
- Listening to victrola and radio.
- Making our own orchestra. Gathering materials for the battery, the woodwinds, and the strings. Making the instruments. Trying them out for tone quality. Organizing the best instruments into an orchestra.
- Preparing our play, "In a Music Store." Discussion and selection of songs, orchestra numbers, and dances suitable for an assembly performance. Discussion and selection of characters and costumes needed. Writing the play. Rehearsing the play.
- Keeping records of our work. Making and illustrating reading books.

Experiences Supplementary to the Unit That May Be Needed

- Health.* Morning inspection. Games in schoolroom and gymnasium. Clean-up Week. Midmorning lunch.
- Arithmetic.* Necessary practice in fundamentals.
- Reading.* Groups I and II read from basal readers.

SUMMARY REPORT OF DEVELOPMENT OF UNIT

Two pictures were put on the bulletin board. One, called "The Happy Family," showed members of a family playing different instruments and a little girl trying to dance. The second picture was "El Jarez," by Sargent, in which a girl dressed in black lace mantilla with white satin dress was dancing, accompanied by guitars and violins.

By the time school was called, the new pictures had been discovered; so a discussion followed about the need for music with dancing. At that time, another picture, a large photograph of the Rochester Civic Orchestra, was produced, and a discussion of orchestras began. Someone again suggested that it would be nice if we had a "band." It was evident that enthusiasm for music was gaining in the group. There was much discussion of the orchestra picture, the different instruments, and the part that the instruments played in some of the pieces the children had heard. There is a piano in the classroom, so the enjoyment of melodies and rhythm is a frequent experience. Before the week was over, we had decided to make some visits to schools and stores to learn what we could about instruments. A trip to Miss S.'s special-class room and an entertainment by their toy band gave the start for the choice of material for our own orchestra.

The decision to make the instruments out of scrap materials led us to pause long enough to visit a music store to see how to put the instruments together.

The desire to show our orchestra to others caused the children to ask if they might perform in assembly.

Thus, the unit began based on the common purpose of creating an orchestra and perfecting our playing for the approval of our audiences.

ACTIVITIES CONTRIBUTING TO VARIOUS ATTAINMENTS

Habits and Attitudes Needed in Many Life Situations

Increased understanding of cooperation. (3)¹

Perseverance on a piece of work, even though tired. (2, 6)

Great improvement in courtesy to guests, to clerks, and to others who come to our room because of general interest in our work. (5)

Better attention in listening in assembly, both in general assemblies and special music assemblies. (1-2)

Cheerful acceptance of disappointments. (3-7)

Increased pride in personal appearance after noting the appearance of the people of other orchestras. (4)

¹ Italic numbers in parentheses indicate the attainments realized. Number designations are those used in the lists on pages 253-259. There are for all groups in the class unless otherwise indicated.

Sustained attention and persevering effort in originating instruments for the orchestra. (2, 6)

Health

Discussion of why only one child may play a certain horn; of washing hands before playing an instrument. (1-2)

Eye care: discussion of why our seats must face a certain direction when we are singing; why the chimes were moved; why we must adjust the curtains when the sun comes on our books and writing. (3)

Discussion of appearance of clothes of the men in the Civic Orchestra; of why the children must have neat clothes if they are to play instruments before company. (4)

Discussion of traffic signals and rules for pedestrians.

Social Studies

Trip through a music store to find out what was sold. Learned location—near school on Main Street—other stores near it. (4)

Trip to Eastman School of Music. Learned location of school and how to go there. Saw and heard students of school practicing on many different kinds of instruments. Handled instruments, discovering what material was used in their construction. (5-8)

"People a long time ago had music." Saw early instruments (drums, piano, and horns) in Dr. P.'s studio. (1-2)

"Other countries and cities have orchestras and music." Instruments were loaned to us from Buffalo, also a ukulele with a Hawaiian stamp. The children examined a trumpet that came from Germany. They handled an instrument from Jerusalem and some Indian tom-toms. One child has a cousin who has just returned from studying violin in Italy.

Music

Various instruments were seen and heard in the classroom: piano, trumpet, violin, banjo, flute, tom-tom, ukulele. (1-2, 4)

Various instruments were seen and heard outside the classroom: tympani, violin, xylophone, tuba, clarinet, trumpet, bass viol, oboe, pipe organ, cello, bassoon, saxophone, accordion, Indian tom-tom, electric piano, Hawaiian instruments, marimba, bagpipes, harp, trombone. (1-2, 4)

Various places were visited to hear and learn about music: Miss S.'s special class at a nearby school to hear toy band; Mrs. K.'s special class at a nearby school to hear toy band; music store; Monroe High School to hear the Rochester Civic Orchestra; Eastman School of Music; radio concerts in home school; spring festival in home school. (1-2, 4, 6)

Music was heard on the piano. Most of this the children now recognize: (1-2, 5)

"Melody in F," by Anton Rubinstein

"Funeral March of a Marionette," by Charles Gounod

"Amaryllis," by Joseph Ghys

"La Cinquantaine," by Gabriel Marie

"Dancing Doll," by Eduard Poldini

"The Secret," by Jean François Gautier

"Marche Militaire," by Franz Schubert

Other piano music was heard: (2)

"Spanish Dance," a piano duet, by Moritz Moszkowski

"Woodland Sketches," by Edward MacDowell

"A Day in Venice," by Ethelbert Nevin

"Triumphal March," from *Aida*, by Giuseppe Verdi

Music was heard in another class room on instruments not in home class: (1-2, 4, 6)

Banjo. Chords. Folk songs. Accompaniment for children's singing.

Trumpet. Two oriental marches with tom-tom and trumpet.

"Melody in F," by Anton Rubinstein.

Violin. "By the Waters of Minnetonka," by Thurlow Lieurance.

"Gypsy Love Song," by Victor Herbert.

Flute, with trumpet and violin. Excerpts from *The Bohemian Girl*, by Michael Balfe.

Radio music was heard: (1-2, 4, 6)

"By the Beautiful Blue Danube," by Johann Strauss

"The Irish Washerwoman," Irish folk song

"The Stars and Stripes Forever," by John Philip Sousa

"The Funeral March of a Marionette," by Charles Gounod

"From an Indian Lodge," by Edward MacDowell

"Triumphal March," from *Aida*, by Giuseppe Verdi

"Ride of the Valkyrie," from *Die Walküre*, by Richard Wagner

"Scarf Dance," by Cecile Chaminade

"To a Wild Rose," by Edward MacDowell

A concert by the Civic Orchestra was heard at Monroe High School:

"Scotch Poem," by Edward MacDowell

"Who is Sylvia?" by Franz Schubert

"Volga Boat Song," Russian folk song

"Fingal's Cave" Overture, by Felix Mendelssohn

"Indian War Dance," by Charles Sanford Skilton

New songs were learned in class, others reviewed. (6)

Rhythm work was continued in imitation of various instruments; rhythms of songs being learned were tapped; marching; tapping or clapping for recognition of tone (loud—soft, fast—

slow) and of tempo ($\frac{3}{4}$ time, $\frac{6}{8}$ time, $\frac{4}{4}$ time). (3)

Rhythm was continued in folk dances: (3, 6)

Tantoli, Bleking, Nixie Polka, Kinderpolka, Ace of Diamonds, Danish Dance of Greeting.

Rhythm was continued in work with instruments made by the children. (3)

Victrola music was heard: (1-2, 6)

"Amaryllis," by Joseph Ghys

"From an Indian Lodge," by Edward MacDowell

"To a Wild Rose," by Edward MacDowell

"Indian War Dance," by Charles Sanford Skilton

"Indian Lament," by Antonin Dvořák

"Bell Song," from *Lakmé*, by Léo Delibes

"Naval Cadets March," by John Philip Sousa

"American Airs Medley," by Victor Herbert

"Fiddle and I," by Arthur Goodeve

Difference between an orchestra and band was studied. Through pictures the organization of an orchestra was studied. Name of local conductor was learned.

Oral Language

Oral discussion of the following topics:

Behavior of people on streets and in stores.

The music story—"What Instrument I Liked." (1-2 for Groups I and III; 1-2, 4, for Group II)

"Why I Liked Miss S.'s Orchestra."

Ways of making various instruments.

The Eastman School of Music. (1-2 for Group III)

The spring festival at the school.

"The Civic Orchestra as We Saw It at Monroe High School"

Possibilities of making a miniature music store. (1-2 for Group I; 1, 3, for Group II; 1, 4, for Group III)

Possibilities of a play for assembly, including a conversation between a clerk and customer in a music store. (1, 4, for Groups I and III; 1, 3, for Group II)

Chose title for play and began the work of writing parts. (1-2 for Groups I and II; 1, 4, for Group III)

Cooperatively wrote letters and addressed envelopes:

1. To Miss S.'s class at a nearby school, thanking them for showing us their band. (4 b for Group II; 5 b, 7, 8, for Group III)
2. To Dr. P. at Eastman School of Music, thanking him for showing us his very old instruments and allowing us to play them. (4 b for Group II; 5 a, 5 b, 5 c, 7-8, for Group III)

Copied letters and the poem, "Marching Song," by Stevenson.
(5 b, 5 c, 7, for Group III)

Orally thanked persons who had entertained us. (3 for Group I;
2 for Group II; 1 for Group III)

Wrote original sentences:

1. Using musical terms. (1 for Group I; 5 b, 7, for Group III)
2. For *The Morning News*. (1 for Groups I and III; 1-2,
4 b, for Group II)

Impersonated members of an orchestra.

Reviewed poems individually: (5 for Groups I and II; 9 for
Group III) "Lady Mouse," "The Elf Man," "A Good Play,"
"Elf and Dormouse," "Marching Song," "I'm Much Too Big
for a Fairy."

THE MORNING NEWS

HOME	SCHOOL	WEATHER
Tony was playing a "karoo" last night. Phillip went to the playground after school. He and Joe had a race. They tied for first place.	We went to the Monroe High School and heard the Civic Orchestra. The best violin player sat on the left. His little boy played in our assembly.	It is warmer today. It is a little cool.

Hand Skills and Related Arts

Made music notebooks, titled "Music." (1-5 for Groups A and B)

Painted oatmeal boxes and flowerpots for drums.

Made sandpaper blocks for instruments, glued handles on them, and painted them. (8-9 for Group A; 12-16 for Group B)

Cut, sandpapered, and shellacked sticks for rhythm sticks.

Cut, sanded, and stained sticks for cello.

Cut, sandpapered, and shellacked sticks from doweling. Attached bells with leather straps.

Papered big box for a miniature music store. Made instruments such as victrolas, piano, drums, accordions, radios, from paper and plasticine. (1, 7, for Group A; 1, 10-11, for Group B)

Sanded boxes for violins. Cut string boards for them and sanded them. Drilled holes for pegs and screws. Stained them.

Sanded beef bones.

Glued handles on cowbells.

Made handles for banjos and painted them.

Cut and sanded three standards for cymbals.

Sandpapered and stained a conductor's box.

Made easel paintings and blackboard drawings. (8-9 for Group B)

Activities Supplementary to Unit

Made boxes for Easter eggs. (5-6 Group A; 5-7 Group B)

Made baskets for candy.

Made place cards for Easter table.

Dyed Easter eggs.

Made marble bags. (10-12 Group A; 17-20 Group B)

Pieced four small quilts for dolls' beds.

Made towels.

Made new aprons for boys. (17-20 for Group B)

INSTANCES IN WHICH EXPERIENCES CARRIED OVER INTO LIFE OUTSIDE THE CLASSROOM

D. C. made a violin at home.

T. I. brought a gourd shell from home for a horn.

P. F. asked his father to buy him a banjo.

D. C. asked his father to let him study violin.

J. I. organized a "comb quartette" of little girls on the playground.

J. L. went to a Friday afternoon concert in Kilbourn Hall alone.

Three children reported having heard the "Melody in F" at the movies; several reported radio listening.

J. M. bought a selection from *Aida* for the piano.

Unit on Lighting

This second unit was developed in an eight-grade school with an intermediate group of boys from twelve to fourteen years of age with mental ages of approximately seven to nine years. These boys were having a school experience that many boys of their ages have—making lamps for their homes. Problems of wiring and using lamps created an interest in lighting. In comparing the teacher's outline of possibilities for this unit with the account of the actual development of the unit, it is obvious that many experiences resulted that were not planned for, and that often one experience led to another without any preconceived plan. The exhibit and the number experiences are outstanding examples of such development.

The teacher outlined the attainments in the tool subjects—English, reading, writing and spelling, and arithmetic—at three

Reading

GROUP I

Discussed the picture "The Happy Family." Contributed four simple sentences about the picture. (1-3)

Made several cooperative stories about excursions and about how we made our instruments. Put stories into book form. (1-4)

Found magazine pictures to illustrate people playing instruments.

Read story "The Apple Man," from *Pathway to Reading*, Primer. (1)

Reviewed: simple action phrases (1); names of objects in room; simple directions. (5)

GROUP II

Discussed picture "The Dancing Girl," by Sargent. Contributed for reading books five sentences describing the picture. (5)

Spent some time putting cooperative stories about our trips into book form and rereading them. (1-3. *Vocabulary 1 c, 2*)

Read familiar poem "Marching Song," by Stevenson. (*Vocabulary 1 c*)

Read "Surprise Stories" from pages 1-21 of *Children's Own Way Series*. (1-6)

GROUP III

Unfamiliar poem "Singing," by Stevenson, read silently and orally. (1-3)

First stanza memorized and typed for own reading book. (*Vocabulary 2*)

Several cooperative stories about our excursions to various places, usually around six sentences given by children and printed on board. (*Vocabulary 1 a*)

These reading stories were put into book form and reread. (*Vocabulary 1 a, 2*)

Read stories from *Pathway to Reading*, Second and Third Readers. (1-3)

Writing and Spelling

GROUP I

Simple words on board for tracing work. (2)

Same word on paper for tracing and independent writing, such as *drum*, *horn*. (1-2)

No definite attempt to teach spelling of words, but some of the group can spell about ten words orally.

GROUP II

Spelling words. (3)

Letters of thanks. (2)

Sentences using spelling words. (3)

Copied poems. (2)

Words (thirty review and new), such as *play*, *make*, *skin*, *box*, *tube*, *sand*. (2-3)

GROUP III

Same as for Group II, except that different words and more difficult sentences were used.

Words (forty review and new), such as *music*, *dancing*, *singing*, *children*, *class*, *store*. (2-3)

ARITHMETIC

GROUP I

Worked with help of concrete objects on addition combinations of

1 2 3 4 5 6 7 8 1 2 3
1 1 1 1 1 1 1 1 2 3 (2)

Counted in sequence to ten without objects, and to twenty-five with objects. (2)

Played store, buying toy instruments for one cent and five cents. (1)

Gained understanding of idea of left and right by placing money on left side, using right hand, etc. (3)

Wrote numbers to 10.

GROUP II

Addition without carrying.

Part of group began addition of two-place numbers with three columns, including carrying, as 24
13
26

Counted in sequence to fifty without using concrete objects. (3)

Reviewed the functions of the long hand on the clock. (2)

Developed ability in understanding the ideas of *here* and *there*, *near* and *far*, *wide* and *narrow*, in connection with construction work. (4)

Played store, buying toy instruments at one cent, five cents, and ten cents. (1)

Counting by 1's, 2's.

GROUP III

Drill in subtraction in which one number is borrowed, as 61
- 18 (5)

Drill in checking subtraction. (5)
Began subtraction of three-place numbers, using one borrowing, as
961
- 118 (5)

Began subtraction of three-place numbers in which there were two borrowings, as 943
- 196 (5)

Read and wrote numbers to 100 on board. (4)

Read price marks. (1)

Told time to half hour and quarter hour. (3)

Made change from fifty cents. (1)

Introduced multiplication by 2. (One boy learned to use two-figure multiplier.)

Reviewed oral counting by 1, 2, 3, 5, 10, 25, 50, 100.

REMARKS: In general, the class is weak on the oral addition and subtraction of combinations between 10 and 20. This is not evident in written work because there they resort to counting on their fingers.

Most of the class, especially Groups II and III, can tell time on the hour, half hour, and quarter hour. They can tell the time for rehearsals and for concerts, and the length of time required to play selections.

Great improvement has been made in the use and handling of money in making purchases amounting to fifty cents

different levels. The children in Group I were from twelve to thirteen and one-half years old chronologically, and had I.Q.'s of from 66 to 75; Group II children were from thirteen to thirteen and one-half years old chronologically and had I.Q.'s of from 59 to 65; Group III children were from twelve to fourteen years old chronologically and had I.Q.'s of from 62 to 75.

The teacher's summary statement of probable outcomes in pupil growth that might result from the unit indicates clearly how personality and social habits as well as knowledge and skills may accrue from a unit of work.

The preliminary statement of attainments to be worked for in these units may seem unreasonably detailed, but one must consider the slow growth in specific learnings that characterizes the progress of the slow-learning child and the need to make provision for persistent and well-considered practice toward their achievement. Such a detailed list also helps the teacher to provide for the learning or practicing of the desired attainments in meaningful situations. Without such a guide to the orientation of this practice, the attainments may be regarded only as isolated facts or skills in the mind of the teacher and may be developed as such. Hence the need for careful specific statement of desired attainments in relation to meaningful experience.

SETTING

A boy who made a lamp last year wished to make another this year. Other boys became enthusiastic about making lamps for their homes. The activity was undertaken and along with it there developed a general interest in the subject of lighting.

ATTAINMENTS THAT MAY BE DEVELOPED

Habits and Attitudes Needed in Many of Life's Situations

1. Is courteous, respectful, and fair to others.
2. Behaves correctly in public places.
3. Has sense of responsibility toward completing work started and toward doing his part of group work.
4. Has personal pride.
5. Has pride in his surroundings.

Health

1. Shows a desire for personal cleanliness and neat appearance.
2. *Appreciates some of the benefits of good lighting.*

Social Studies

1. Has some knowledge of what electricity is.
2. Has some knowledge of how it comes to us.
3. Has some knowledge of the relation of water power to electricity.
4. Knows some uses of lights: street signals, locomotive lights, lighthouses, medicinal lamps, signals for airplanes.
5. Has some knowledge of where we get kerosene.
6. Has some knowledge of how illuminating gas is made.
7. Has some knowledge of how it is brought to us.

Hand Skills and Related Arts

1. Bookmaking
 - (a) Has ability to measure and cut material as needed.
 - (b) Applies lettering on cover.
2. Making of Charts
 - (a) Selects suitable material for mount.
 - (b) Mounts material neatly.
 - (c) Cuts letters of suitable proportion.
3. Block Printing
 - (a) Makes suitable design for cover.
 - (b) Carves block for printing.
 - (c) Applies block-printed design to book cover.
4. Modeling
 - (a) Has perception of form and size.
 - (b) Expresses ideas in clay.
 - (c) Creates objects of good proportion.
5. Woodworking
 - (a) Knows names of tools used.
 - (b) Measures one inch and one-half inch.
 - (c) Knows care and use of rip and crosscut saws.
 - (d) Shows ability to assemble models of three or more parts.
 - (e) Applies stain evenly.
6. Lamp Shades
 - (a) Gains appreciation of simple design and color.
 - (b) Selects suitable design for shade.
 - (c) Applies design to shade with crayon or oil paint.
7. Electricity
 - (a) Understands simple processes of electric wiring.

English

GROUP I

1. Contributes to a discussion of experiences of interest to the group.
2. Holds interest of class when talking.
3. Asks questions about subject at hand.
4. Expresses ideas so that they are understood.
5. Tells simple original story.
6. Begins to recognize that a group of related ideas is called a paragraph.
7. Makes correct use of (a) capital letter at beginning of sentence, (b) capital letter for pronoun I, (c) period at end of sentence, (d) question mark after question.
8. Copies requests, invitations, and so forth.

GROUP II

1. Contributes to a discussion of experiences of interest to the group.
2. Holds interest of class when talking.
3. Expresses ideas so that they can be understood.
4. Gives attention to sequence when expressing ideas orally.
5. In giving simple or original reports (a) selects good title, (b) avoids "and," "then," "so," (c) gives main points in order.
6. Copies letters, invitations, and so forth.

GROUP III

1. Contributes to a discussion of experiences of interest to the group.
2. Holds interest of class when talking.
3. Answers questions directly.
4. Asks questions relating to subject at hand.
5. Recognizes and learns to use new words.
6. Writes notes of thanks, invitations, short friendly letters of one paragraph, independently.
7. Addresses envelopes.
8. Shows increased social poise in (a) introducing people, and in (b) conduct during assembly, lectures, concerts.

Reading Habits and Skills

1. Reads over silently first what is to be read aloud.
2. Enunciates clearly and distinctly in oral reading.
3. Asks and answers questions pertaining to material read.
4. Selects and reads parts of story that make greatest appeal.
5. Reads titles of books.

Reading Vocabulary

GROUP I

1. Reads silently from slips of paper: (a) simple directions, (b) answers to questions.
2. Reads from chart: (a) familiar songs and poems, (b) simple directions, (c) cooperative stories.
3. Reads and understands common signs.

GROUP II

1. Determines through context the meaning of unfamiliar words.
2. Makes a list of unfamiliar words in a story read independently.

GROUP III

1. Is interested in newspapers. Can use one independently and make simple report on what is read.

Writing and Spelling

ALL GROUPS

1. Maintains good position for writing.
2. Uses good slant, spacing, and letter form.
3. Masters basic words needed in written work.
4. Desires to spell correctly in situations where spelling is necessary.

Literature

ALL GROUPS

1. Listens with increased interest to new stories and poems.
2. Enjoys telling, retelling, and hearing others tell or read favorite stories and poems.
3. Repeats from memory favorite poems.

ARITHMETIC

GROUP I

1. Knows how to add one- and two-place numbers with a limited number in columns, with and without carrying.
2. Knows how to subtract two-place numbers without borrowing.
3. Tells time accurately by hour and half hour. Knows divisions of time—day, week, month, and year.
4. Knows how to check results accurately.
5. Knows how to use addition and subtraction facts taught thus far in simple one-step problems.

GROUP II

1. Knows how to use addition and subtraction facts in simple one-step problems.
2. Knows how to multiply a two-, three-, or four-place multiplicand by a one-place multiplier.
3. Knows units of measure as far as taught and makes application of them.
4. Appreciates value and is able to make change with money to fifty cents.
5. Knows how to check results accurately.

GROUP III

1. Knows how to solve problems that arise calling for the use of one process or more.
2. Reviews how to add five-place numbers.
3. Reviews how to subtract five-place numbers with borrowing.
4. Reviews and drills even and uneven two-place dividends and one-place divisors.
5. Knows meaning of units of linear measure and makes simple application of them.
6. Appreciates value and is able to make change with money to five dollars.
7. Knows how to multiply a three-place multiplicand by a two-place multiplier.
8. Knows how to divide a three-place dividend by a one-place divisor with or without remainder.
9. Knows how to check results accurately.

*PROBLEMS AND EXPERIENCES THAT MAY BE DEVELOPED**Questions That May Be Raised*

While the boys were engaged in this activity, certain questions arose:

1. What is the correct way to wire lamps?
2. What is electricity?
3. Where does it come from?
4. How is it brought to us?
5. Why are we warned to keep away from "live wires"?
6. Who discovered electricity?
7. What was the "Golden Jubilee of Light"?
8. Who was Thomas Edison?
9. What did people use before they had electricity?

Experiences That May Furnish Answers

A trip to municipal museum to examine an exhibit on historical development of lighting.

1. Write principal and parents for permission for trip.
2. Discuss location, direction, best way to get there, conduct in museum.
3. Specific questions to answer.

Experiences following trip to museum.

1. Discuss points of special interest.
2. Investigate further for verification of facts.
3. Write note of thanks to guide for his interest and instruction.
4. Arrange to get material from library.
5. Write to various places to secure any available material on the subject.
6. Follow any news in daily paper.
7. Post information on bulletin board.
8. Make candle in candle mold.

A visit from representative of local gas and electric service company to discover ways in which company can assist in class project.

1. Write a letter to representative telling about class project and asking him to come to talk to class.
2. Prepare for visit.

Experiences following the visit to public service plant.

1. Discussion of points of special interest.
2. Investigation of further material after visit for verification of facts.

3. Write note of thanks to representative for his interest and instruction.

Completion of lamps.

1. Wire lamps.
2. Make shades.
3. Decide kinds of bulbs to use.
4. Decide where to place lamps in home to give the best lighting.

The making of charts and books in which to keep work.

SUMMARY REPORT OF DEVELOPMENT OF UNIT

The subject was suggested by a boy who wished to make an electric lamp for his home. Other boys became interested and the activity was undertaken.

As the boys worked, questions arose. The fact that one boy could not use an electric lamp in his home raised the question: What are other sources of light? We decided to trace the development of lighting.

Members of the class suggested means of obtaining this information. They decided to consult their parents and other adults, books, and pictures, to visit the museum, and to write to factories and stores for information.

In order to stimulate further interest and to give the children some background for study, the trip to the museum was planned immediately. Special reading assignments were given and the boys were encouraged to have questions ready for the guide. The result was very satisfactory. The municipal authorities with whom we made the arrangements had an excellent exhibit ready for us. The story of lighting told by the guide, together with the questions that the boys asked, suggested many phases of the subject for further study.

The first effort of the group was to collect as much material as possible for an exhibit of their own. Charts, block prints, plasticine molds, pictures, and newspaper and magazine articles were contributed. A demonstration of the making of candles was followed by experiments on the part of the boys. All academic work possible was based on the activities of the class.

During this time, the boys had been working on their lamps each day and, by the time the early history of lighting was completed, they were ready to wire their lamps. This activity introduced the subject of electricity for lighting. After all the available material on this subject had been used, the boys still felt that there was much more for them to learn; so arrangements were made for a representative from the City Gas and Electric Corporation to come and talk to them. He gave a very interesting demonstration and talk. From this the boys gained ideas about the making of shades for their lamps.

At this point much material had accumulated and the boys were eager to exhibit their work.

With much pride and satisfaction they arranged the exhibit. In addition to charts, bulletin board, scrapbooks, and various kinds of lights, they displayed their notebooks showing how their academic work had been coordinated with this study of lighting.

Each boy was allowed to send an invitation to some teacher in the school or to some grade in which he was particularly interested. Acceptances were almost 100 per cent; so we were busy throughout the day set aside for receiving visitors.

The boys entertained their visitors by telling the story of lighting, reciting poems, and demonstrating how they made their candles, lamp shades, and so forth.

One morning Miss T. came into the room and the boys enthusiastically told her all that they were doing. It was striking to note that their letter-writing activities were as interesting and vital to them as any other part of their work. They voluntarily told about writing letters to the director of the museum and to Mr. E. of the Gas and Electric Corporation. Letters had a meaning for them. Their letters had brought satisfying results.

The fact that the unit offered problems in the solution of which all boys could take an active part has had far-reaching results. For instance, it is noticeable that the boys have taken personal pride in the appearance of their room since the unit was started. They have also taken more pride in their own personal appearance and in improving their speech.

ACTIVITIES DEVELOPED AND ATTAINMENTS RESULTING FROM THEM

Health

Proper light in our schoolroom.

Proper light to save eyestrain in our homes.

Social Studies—Investigations, readings, discussions. (1-7) *

What is kerosene?

Whale fishing.

Of what and how is gas made?

Importance of lighthouses.

Location of oil wells.

Location of coal mines.

Transportation of coal and oil.

Living conditions in early days compared with those of today.

* Italic numbers in parentheses indicate the attainments realized. Number designations are those used in the lists on pages 268-274. When no groups are indicated, attainments were common for all groups in the class.

Electricity—what it is, where it comes from, how it comes to us.
 Relation of water to electricity.
 The many uses for electric light.

Literature

Selected readings on the subject of light. (1-2)
The Story of Light, by Jeanette Eaton. (1-2)
 Poem, "The Lamplighter," by Robert Louis Stevenson. (1-3)
 Poem, "Bed in Summer," by Robert Louis Stevenson. (1-3 for Group I)
 Poem, "I Would Be True," by Howard Water. (1-3)
 Memory gems. (1-3)

English

Discussing means of obtaining information on light. (1-4)
 Planning trip to museum. (1-4)
 Writing letters to parents, principal, museum, asking permission to visit museum. (7-8 for Group I; 3, 6, for Group II; 5-7 for Group III)
 Discussion of visit. (1-4)
 Writing letters of thanks to guide and to Mrs. P. (6-8 for Group I; 5-6 for Group II; 6-7 for Group III)
 Oral discussion on "How to Make a Candle." (1-4)
 Writing story on "How I Made a Candle." (4-5, 7, for Group I; 5 for Groups II and III)
 Work on correct speech. The need for this work arose from the fact that the boys were making mistakes in the use of singular and plural words, and in tenses of verbs and so forth, in oral and written composition. They made such mistakes as using "mens," "he discover." (3-4)
 Lesson on paragraphing. The need for this lesson arose in writing letters and compositions. (6 for Groups I and III; 4-6 for Group II)
 Writing story of "Lights Used in Early Days." (6-7 for Group I; 5 for Groups II and III)
 Oral practice in answering in complete ideas or sentences. (2-4)
 Talk and demonstration by representatives from the Gas and Electric Company. (8 for Group III)
 Discussion of visit of Mr. F. and Mr. O. (1-4)
 Writing letter to Mr. F. and Mr. O. (7-8 for Group I; 6 for Group II; 6-7 for Group III)
 Study of the life of Thomas Edison. (1-5)
 Discussion of Golden Jubilee of Light celebration in Rochester. (1-5)
 Oral report, "How I Made My Lamp Shade." (1-5)
 Oral review of story of lighting. Poems for exhibit. (1-5)

Writing invitations to exhibit. (7-8 for Group I; 5-6 for Group II; 6-7 for Group III)

Entertaining visitors. (1-2, 5, for Group I; 1-3 for Group II; 1-4, 8, for Group III)

Some new words that were discussed and in some instances added to vocabulary:

A.D.	harbor
appreciate	information
artificial	interesting
B.C.	inventor
bulbs	invention
coke	lantern
company	meter reading
current	museum
dangerous	natural
different	permission
dim	petroleum
discover	pleased
early	present
Edison	protect
electricity	signal
enjoy	sincerely
exhibit	steady
expensive	switch
foggy	tallow
friction	torch
gasometer	wells

Reading

Special assignments for individual pupils to read material with view to reporting or reading to class. (1-4 for Group III. *Vocabulary 1-2*)

Reading lessons were assigned from basic readers when material on subject of lighting was not available.

Spelling

Basic words, need of which arose in daily work. (1-4)

Introduction of most commonly used words which grew out of study of lighting.

Arithmetic

Making book-cover designs, chart, lamp shades, candlestick holders, etc., involving measuring. (1-2 for Group I; 1-3 for Group II; 5 for Group III)

Time; invention of electric light, birth of Edison, opening of first

- large oil well, and so forth. (1-2, 4-5, for Group I; 1-2 for Groups II and III)
- Cost of lights in early days and now. (1-2, 4-5, for Group I; 1-5 for Group II; 1-2, 7, for Group III)
- Reading electric and gas meters. (3 for Group II; 1 for Group III)
- Figuring cost of electric and gas light. (1-2, 4-5, for Group I)
- Figuring cost of lighting fixtures. (1-2, 4-5, for Group I; 1-5 for Group II; 1-2, 7-10, for Group III)
- Comparison of cost of lighting in early times with cost today. (1-2, 4-5, for Group I; 1-2 for Groups II and III)
- Fractions in charts and so forth.
- Necessary practice in arithmetic fundamentals was assigned from the regular arithmetic texts to supplement the arithmetic situations that the experiences of the unit presented.

Hand Skills and Related Arts

- Making notebook covers for story of lighting. (1-2)
- Making block prints to illustrate story of lighting. (6-8)
- Collecting various kinds of lights for exhibit.
- Making picture books from pictures collected on lighting.
- Making wall charts. (3-5)
- Reproducing in plasticine things seen at the museum, and expressing ideas gained from reading. (9-11)
- Making candles.
- Making fire sticks to learn how fires were lighted in early days.
- Making health charts on care of eyes to present to health teacher. (3-5)
- Making charts showing evolution of lighting. (3-5)
- Making candlesticks.
- Study of gas and electric meters.
- Making electric lamps. (12-16)
- Wiring lamps.
- Studying static electricity and friction.
- Making lamp shades. (17-19)
- Demonstration by representatives of gas and electric company.
- Exhibit of materials the grade had made and collected in developing the study of lighting.

GENERAL SUMMARY OF OUTCOMES

- Increased interest, joy, and pride in own work and in the work of classmates.
- Increased self-confidence, and higher standards of personal achievement.

- Increased ability to do independent work.
- Increased sensitiveness to social conduct.
- Increased alertness in watching for useful material.
- Ability to use newspaper more independently and to make simple report on what was read.
- Greater effort to ask and answer questions in well-constructed sentences, so that meaning is conveyed.
- Increased vocabulary.
- Desire to learn new words needed in written work.
- Ability to write invitations and short letters of thanks independently.
- Increased appreciation of what letter-writing means.
- Increased pride in penmanship.
- Increased ability to solve accurately problems in arithmetic which arise.
- Some appreciation of early methods of lighting in contrast to lighting at the present time.
- Increased skill in handling and using tools.

Questions and Suggestions for Study

1. Apply to one of the units outlined in this chapter the criteria suggested earlier for the selection of units.
2. What advantages are derived from planning a unit in as detailed a manner as the units in this chapter were planned? Can you suggest an improved plan?
3. Choose one of the two units described:
 - a) Study attainment groupings and discuss what they tell you about the organization of the class.
 - b) Choose and discuss five situations where personality habits were developed or strengthened.
 - c) Discuss deviations from the preliminary plan.
4. Contrast the units on music and on lighting as to ages of children, activity, and content.
5. Could a unit on lighting be used in a mixed class of boys and girls? Suggest adaptations, if any, that might need to be made.
6. *Do any special-subject teachers teach your class? How can they cooperate with you in a unit program?*
7. What are some of the difficulties the teacher would have encountered if she had attempted to follow a formal, timed program in developing any one of these units?
8. List for each unit all the experiences you would classify as (a) *firsthand*, (b) *experiences of expression*.
9. Name the experiences these two classes had that undoubtedly gained for them increased respect and admiration from the rest of the school.

10. How does the development of the unit in music illustrate the fact that it is advisable for the successful teacher to be able to have some choice in the selection of units for her class?
11. Give illustrations from these two units to show that the children benefited from a variety of experiences.

Reading References

See the list of reading references at the end of Chapter 15.

15

Units for Elementary Age Groupings

Throughout previous chapters, emphasis has been given to the pupil's continuous growth in both understanding his environment and self-realization in meeting life situations. This premise calls for appropriate learning situations from school entrance to the time of satisfactory adjustment in an occupation. School systems that are prepared to discover and understand mentally retarded pupils will find such children early and provide for them appropriate programs from the primary years on. This chapter will briefly discuss learning experiences or units that are suitable for elementary-age groupings from the earlier years through early adolescence.

The general and specific attainments outlined in Chapter 10 and the units that follow here imply the need for a planned curriculum guide. The administrator and special education teacher should give thoughtful consideration to developing a guide suited to their particular requirements. A certain progression is suggested in the series of units set forth in this chapter, beginning with those centering about home and family life and reaching out to broader social and life situations including occupations. *The number of units provides an opportunity for selection based on local environment, pupil's abilities, and levels*

of development. The reality and value of any series of units for any individual or group, however, can only be evaluated in terms of its development in a particular school and community setting and its particular contributions to total behavior outcomes for the individual and the group. The teacher is a key person in curriculum building.

Where a teacher does not have a curriculum, she might well make a tentative selection of units from the lists which follow. These would, of course, be chosen with consideration for the abilities of the children, their experiences of previous terms, and the resources of their homes and community. The teacher's cumulative record of the children's progress toward specific attainments or competencies and their current needs will furnish the bases for the selection and sequence of units. Many children will remain with the same teacher over a period of two or even three years. This situation affords a rich opportunity for understanding the children's needs and problems and building a developmental sequence in unit experiences. Furthermore, the teacher can make ample records of each child's progress as an aid to planning by succeeding teachers.

Units for Preprimary Children

Since there is a trend to discover retarded children during their early years, schools should either take steps to meet their needs when they are associated with other children in kindergarten and transition grades, or provide preprimary special classes. Particular goals and experiences appropriate to the early primary years are outlined.

Learning experiences suggested for children of these ages are designed to provide them with a rich opportunity to experience actual doing, thinking, and feeling in relation to the familiar situations in their environments of home, playground, street, school, and so on. The individual child learns thereby to understand, express, and conduct himself better. At the same time, he needs guidance in group participation and in the development of specific habits and skills that lay the foundation for reading and number readiness. Whether he is attending kinder-

garten, a transition class, a first grade, or special education class, his needs should be recognized so that he may learn at his level without failure. These are the years in which the school should foster:

1. Personal habits of cleanliness, eating, rest, care of possessions, and safety.
2. Building of concepts related to home, family, school, nature, and so on.
3. Social experiences with peers and adults of listening, talking, singing, sharing toys and materials, playing games, and so on.
4. Good speech and a growing vocabulary.
5. Awareness and discrimination of color, shape, size, position, direction, sound, texture, taste, and so on.
6. Motor coordination and motor expression through play, rhythm, construction of all kinds, such as block-building, sawing, and hammering, and expression with various materials, such as clay, paints, crayons, and so on.

The teacher working with a child of this age will view the unit as an actual experience in living related to the young child's *immediate interests and environment*. Any unit for this age level will, therefore, be of very short duration and will not comprise the number of related or well-defined activities that older children can undertake. At this level, a unit should focus on one experience of doing or exploration, such as watching the bulldozer, a trip to the pet shop or to the greenhouse, gathering feed for the rabbit, or making applesauce or ginger cookies. These children, more than others, need many of these experiences under teacher guidance. After providing any experience, the teacher should be sensitive to evidences of any ongoing motivation for listening, telling, questioning, dramatic play, and illustration or construction, but she should guard against imposing situations. As she capitalizes on the children's interests, provides opportunities to clarify concepts, establishes attitudes, and so on, she must not go beyond the children's stage of motivation or readiness.

The teacher should focus her attention on the several aspects of development noted above. She should recognize that the daily

activities of lunch, rest, play, and music offer invaluable channels for growth. She should not introduce the specific tasks that build for reading and number readiness (see Chapter 16) until the child is ready. The following are suggested units of experiences for five-, six-, and seven-year-olds.

Mother's Work
 Father's Work
 The Playhouse
 The Firehouse
 The Carpenter at Work
 The Sawmill
 The Bakery
 The Postman
 The Mail Truck
 The Train
 The Airplane
 The Toyshop

The Grocery Store
 The Zoo
 The Pet Shop
 Farm Animals
 Feeding the Rabbit
 The Birdhouse
 The Bird Feeding Station
 Planting Seeds
 Going to the Woods
 Making Applesauce
 Making Popcorn Balls
 A Birthday Party

Units for Primary Children

The majority of special-class organizations begin with the primary-group ages seven or eight through ten or eleven years. Children at these ages still need to explore their environments in order to acquire factual understandings and concepts. They also need to develop common skills and to realize physical, social, and beginning educational achievements that they and their families and schoolmates feel are necessary. These are the years for successful achievement in the meaningful use of primary language arts and beginning number and hand skills. The units suggested at these age levels will provide a variety of learning experiences related to everyday interests and problems.

Community or Neighborhood

Units

Our Homes
 A Street in Our Neighborhood
 Our Neighborhood Center
 The Post Office
 The Library
 The Gas Station
 The Theater
 Buying at the Drugstore
 Buying at the Hardware Store
 Community Workers

Food Units (Health)

The Farm
 The Farmer's Work
 The Dairy
 Milk
 The Public Market
 The Poultry Show
 The Cafeteria
 Buying at the Market
 Buying at the Grocery
 The Truck Garden
 Vegetables and Fruits (Spring)

station? What shall we put in it? Can we make a station clock? Can we make timetables? What does the railroad carry other than people?

EXPERIENCES

Approach to experiences through reading to children stories and poems about trains; displaying train pictures for children to look at and talk about; discussing how a new boy came by train to the city.

Visiting a railroad station. Planning the trip. Deciding what to look for.

Discussing after the trip where people go on trains, passenger cars, buying tickets, timetables, waiting room, baggage room, ticket office.

Taking a trip to a nearby town by train, if possible.

Looking at slides and stereoscopes of trains and travel.

Building a railroad station, waiting room, and ticket office (large enough to play in). Making tickets, train schedules, and appropriate signs.

Laying out on schoolroom floor a plan of waiting room, ticket office, restaurant, freight sheds, tracks, baggage room.

Making a station clock. Learning to tell time.

Making lists of names of nearby towns and cities. Making timetables. Listing the duties of the conductor, switchman, motorman, and so forth.

Drawing on floor "play" routes from home town to nearby places. Taking a journey in play.

POSSIBLE SOCIAL STUDIES OUTCOMES

Knows about railway stations and their activities.

Realizes how many people work in the station and the duties of each.

Realizes that they serve many people and must be neat and clean and courteous.

Knows that trains come and go at stated times.

Knows that many people depend on train service.

Knows about distance in relation to time, how long it takes trains to travel to certain nearby places and to places far away.

Realizes that trains carry goods as well as people.

Realizes that signs are important for what they tell us.

Increases vocabulary: station, platform, timetable, schedule, and so forth.

SUGGESTED READINGS

- LENT, HENRY B. *Clear Track Ahead*. New York: The Macmillan Co.
- MEIGS, C. *The Wonderful Locomotive*. New York: The Macmillan Co.
- SWIFT, HILDEGARDE. *Little Blacknose*. New York: Harcourt, Brace & Co.
- TATHAM, CAMPBELL. *The First Book of Trains*. New York: Franklin Watts, Inc.
- ZAFFO, GEORGE J. *The Big Book of Real Trains*. New York: Grosset & Dunlap, Inc.

Unit on "Seeds in Autumn"

QUESTIONS FOR OBSERVATION

How many different kinds of seeds can we find growing in the schoolyard?

How are the seeds of weeds planted?

How are garden seeds planted?

How are seeds of one plant different from those of others?

Why do some seeds have tiny hooks? some, wings? some, sails?

Where do we find the seeds of fruit trees? of nut trees?

What happens when a seed is planted in the fall? in the spring?

Do all seeds sprout the same way?

EXPERIENCES

Hunting in schoolyard or neighborhood for different kinds of seeds.

Going to the park to pick up different kinds of pine cones. Hunting for the seeds hidden under the cone scales.

Bringing ripe apples, peaches, pears, to school. Cutting into the cores to study the seed arrangement of each.

Soaking a few beans in warm water. Splitting in two to see the tiny new plant within.

Placing a few seeds of beans, peas, nasturtiums, or other plants on moist cotton or blotting paper and observing their sprouting.

Planting a few seeds (grapefruit, apple, horse-chestnut, nasturtium, bean, corn) in the window box or in individual flowerpots and observing the growing plants. Marking the place where each seed is planted. Noting differences in length of time to sprout, to bear seeds, and so forth.

Making a collection of, and classifying and labeling, as many different kinds of seeds as possible: i.e., "Seeds We Eat," "Nut Seeds," "Fruit Seeds," "Seeds That Sail Through the Air," and so forth.

Looking for pictures of trees and their seedlings.

Collecting seed pods from weeds for decorative purposes.
Making blueprints and spatter pictures of seed pods.

PROBABLE SCIENCE ACHIEVEMENTS

Has an increased interest in plants and their seeds—in looking for them, watching them sprout, and so forth.
Can recognize several different kinds of seeds.
Has a generally good idea of the cycle of a life of a plant.
Appreciates beauty in common things.
Realizes the value of nut seeds and some vegetable seeds as food.

Units for Intermediate Children

The intermediate class is usually made up of the more mature eleven-year-olds, and twelve- and thirteen-year-olds. Units chosen for children of these ages should give them a better idea of industries and services in their own locality, of how goods are produced and shipped, and how man provides himself with food, shelter, and clothing. They should learn about the practical arts of home life and come to understand the city as a group of people *living and working together*; they should know something about occupational opportunities and the inventions and improvements that make life today different from what it was long ago. As the child grows older, it becomes even more important that units should make more intelligible to him what he encounters on the street, at the movies, on the radio, and in the newspaper as he tries to identify himself with life's activities. Today, more than ever before, children are subject to complex stimuli both outside and inside the school. Units should help make these stimuli as intelligible as possible.

These units are broader in scope and are more informational than those for the younger children. Any one of them will examine several different phases of an interest and include several avenues for expression and the utilization and mastery of skills. At these ages, the pupil is readying himself for the period of adolescence with its urge for identification with peers, for growing independence, and for fulfillment of a worthy role in the social groups of home, school, and community, including a suitable occupation.

The following titles suggest units of work that may be developed with children of chronological ages of eleven, twelve, and thirteen years.

Clothing Units

What Our Clothes Are Made of
Keeping Clothes Clean and Mended
Personal Grooming
My Summer Clothes
Our City, a Center for the . . .
Industry

Units of Home Life

Houses and How to Build Them
Lumber, Brick, and Cement Industries
The Forests of Our State
(Some other natural resource may be substituted here.)
Heating Our Homes
Lighting Our Homes
Decorating and Furnishing a Room
Fixing Up My Bedroom
Preparing Simple Meals
The Purchase of Groceries
The Family's Recreation

Food Units (Health)

Fruits and Vegetables
Milk and Its Products
The Story of Grains
The Common Meats
Fish Foods
Poultry
Foods Grown in Our Locality
Foods from Other Parts

Units of City Life

Downtown
The Fire Department
The Police Department
The City's Housekeeping
The City Parks
Sports
Banking and Thrift
The Health Bureau and the Hospitals
Industries
Transportation of Goods into and out of the City
Early History of Our City
The Safety Drive

Travel and Communication Units

Transportation and Travel Long Ago and Now
Principal State Highways
Principal United States Highways
Travel by Train, Auto, and Air
The Newspaper
Telephone and Telegraph
Radio and Television

Science Units

Air Pressure
The Air and Sound
Water and the Soil
Sinking and Floating
The Weather
Radiant Heat and Light

Questions and Suggestions for Study

1. Why is a curriculum plan for units desirable?
2. Choose one of the units suggested and make a tentative plan for a special class, ages nine to twelve years; for a special class, ages twelve to fourteen years.
3. Select units that you think would be best suited to mixed groups of boys and girls ranging in age from nine to thirteen years.
4. Choose three units suitable to your class. Make a bibliography that would help you in planning and in carrying out each unit.

5. Suggest ways of developing interests in natural science in a special class of boys, ages twelve to fourteen years, selected from a formal city school in which the boys had received no instruction in science.
6. Make a study of your class, your school, the pupils' homes, and your community's resources and suggest a sequence of units for one year based on this study.
7. State the values of a curriculum guide to the administrator, the teacher, and the parent.

Reading References

GARRISON, IVAN K. "A Developmental School Program for Educable Mentally Handicapped," *American Journal of Mental Deficiency*, 57 (Apr., 1953), 554-64.

Gives emphasis to curriculum sequence appropriate to the child's developing maturity.

LEE, J. MURRAY, and LEE, DORRIS MAY. *The Child and His Curriculum* (2d ed.). New York: Appleton-Century-Crofts, Inc., 1950.

A text that is useful as a reference source for the various aspects of elementary-school curriculum, including unit planning.

MARTENS, ELISE H. *Curriculum Adjustments for the Mentally Retarded*. (Office of Education Bulletin 1950, No. 2.) Washington, D.C.: Government Printing Office, 1953.

Explains the differentiation of curriculum according to age and ability levels and also the use of experience as a basis for curriculum construction. Examples of experiences in science, art, and social and civic life are given.

SAYLOR, JOHN GALEN, and ALEXANDER, WILLIAM M. *Curriculum Planning for Better Teaching and Learning*. New York: Holt, Rinehart and Winston, Inc., 1954, pp. 371-75.

A general discussion of ten guiding principles which should be observed in developing a curriculum for exceptional children.

WEINER, BLUMA B. "Essential Features of a Pre-academic Program for Young Mentally Handicapped Children," *American Journal of Mental Deficiency*, 58 (Apr., 1954), 540-45.

A discussion based on experimental work with a curriculum developing academic readiness.

Selected Curriculum Guides

Curriculum Guide for Special Education. (Vol. 1.) Akron, Ohio: Akron Public Schools, 1950.

Covers all subject areas for primary, intermediate, and advanced classes of slow-learning pupils. It is complete with bibliography and appendix.

Curriculum for Mentally Retarded Children—Elementary and Secondary Schools. Erie, Pa.: The City School District, 1952.

This guide has chapters devoted to the development of personal, social, and cultural skills and to occupational competencies. The development of units is included. Audio-visual aids are listed.

A Curriculum Guide for Teachers of Mentally Retarded Pupils. (Vols. 1, 2, 3.) Detroit, Mich.: Board of Education, 1953.

This guide presents a working outline of concepts. With this outline is a list of activities to implement the teaching of these concepts. The guide is divided into the following four areas: Health, Home and Family Living, Democratic Group Living, and Vocations. These areas are set up at three levels: Vol. 1, Primary; Vol. 2, Intermediate; Vol. 3, Advanced (for secondary-school classes).

Guide for Teachers of Mentally Retarded Children: Secondary Level. Rockland, Montgomery County, Md.: Public Schools, 1954.

Gives a total program for seventh, eighth, and ninth years. It has a complete outline for each year with suggested techniques and resources listed. The language arts area includes diagnostic procedures.

The Mentally Retarded: A Guide for Instruction (Grades 1-6). Arlington, Va.: Arlington Public Schools, 1958.

A curriculum with an orientation for understanding the educable retarded child and the basic principles for his curriculum. Organized around life areas; abilities to be developed and suggestive activities are clearly stated. Resource units and materials developed around central themes form a significant part of the program.

Suggested Activities for Special Training Classes. San Diego, Calif.: Office of County Superintendent of Schools, 1959.

Learning experiences in content areas, such as home economics, music, health, science, and so on, are organized as to aims, motivation, and activities for primary and intermediate classes of educable children.

A Curriculum Guide for Teachers of the Educable Mentally Handicapped. (The Illinois Plan, Circular Series B-3, No. 12.) Springfield, Ill.: State Office of Public Instruction, 1958.

Goals and activities are organized under ten life functions for primary, intermediate, and advanced classes. Concepts or areas of knowledge are also outlined.

Acquiring the Language Arts

There is no area in the curriculum of any child that has greater significance for the development of a worthy selfhood than the area of communicative arts. Every individual needs to be able to express himself orally, to understand what others have to say in face-to-face relationship or on the printed page, and to convey ideas in writing. Every parent expects this mastery for his child and every child wants to experience it in order to feel approved and accepted. Hence, it is the responsibility of the school to aid retarded children to achieve their full potential in the achievement of communicative skills and readiness to meet with confidence the many life situations where these skills will be needed.

Through communication, the child comes to understand life around him and is able to associate with and be accepted by his peers and by adults. From year to year his need to understand and master spoken language and its printed and written symbols increases. He wants to share in conversation with others and to have others respect what he has to say. Acceptable speech aids him in holding his place in the family circle and with his peers. As he grows older he not only must communicate orally and act on what he hears, but he must be able to interpret and act upon what he sees in printed form in the street, bus, store, bank, or factory. He wants to read newspapers, comics, bulletins, and even books, as others do. He wants, also, to be able to write on

those occasions when he is asked to give written information, to sign his name, to compute figures, and so on.

Good speech and oral language commensurate with their communicative needs are within the reach of mentally retarded children. Mastery of these skills is a vital factor in the child's successful adjustment. Reading and writing, too, fill a practical and personal need. The school cannot afford to miss its opportunity for planning and developing specific methods of teaching the communicative arts to the mentally retarded child.

Language Needs

The ability to use language as an accurate expression of ideas and feelings is an art. It is no mean accomplishment, and studies have shown that it correlates highly with intelligence. In the description in Chapter 3 of the development of mentally retarded children at different age levels, slow development of language ability was mentioned as a noticeable characteristic of the slow-learning. Though given the best of environments and the best teaching guidance, the mentally retarded child will be backward in his language expression. It has been demonstrated, however, that the school can aid his language development if attention is directed specifically to the function of language in life situations generally. Teachers of the mentally retarded as well as teachers of average children often have not secured the best possible results in language arts because they have concentrated in teaching speech patterns that the child could not readily use in his everyday conversation. They often have spent time on the careful arrangements of words, formal answers to questions, set forms of telling stories and delivering talks, and so on, giving little heed to the fact that most oral language is spontaneous conversation used to convey thoughts, exchange ideas, explain ways and means, or verify conjecture. Some teachers have also been pedantic about speech errors, thereby defeating their own purpose. For some children, school has been a place where they developed a fear of expressing themselves naturally. Their efforts were centered about learning to speak as the teacher *would have them speak*.

There are certain life situations in which the mentally retarded child needs to be directed in the use of oral language. These are in conversation and group discussion, in giving simple explanations and directions, in answering questions, in telling stories or relating incidents, and in preparing for some special occasion, such as a class program or dramatization. The adolescent and youth need to feel at ease in language situations such as those that involve choice of consumer goods, telephone conversations, getting and holding a job, securing medical service, personal banking, and joining a club group.

The occasions which require a mastery of written language are fewer. For the mentally retarded, they consist, for the most part, of making purchase lists, filling out forms, and writing notes, letters, and, possibly, an occasional telegram or newspaper advertisement. Classroom experience that provides for real progress in language ability must include opportunity for meeting these needs, both oral and written, in a natural, free manner.

Oral Language

Basic to good personal adjustment are a facility in using language and the feelings of adequacy and acceptance in social situations which accompany such facility. Children generally are curious about what others are saying and doing. At other times, they want to be heard and want others to respond to them. As a rule, children make rapid strides in speech and language during the preschool years. But the child who responds to the speech of others in a halting manner and understands little of what he hears by way of context clues may give up trying and seek few opportunities for oral expression. It is particularly necessary that the school take account of this possibility and offer the slower child time and opportunity to listen and to experiment with speech during his early school period (when he is five, six, and seven years old).

The emphasis on child experiences and the descriptions of units in the foregoing chapters suggest the many opportunities for learning and practice in natural settings. Growth in English expression depends on growth in concepts and ideas and on

opportunity to express these concepts and ideas orally. Vocabulary and sentence forms develop as the child finds himself in situations where he has need for using new terms and for making himself understood. Where the teacher plans her program to include trips, examination of actualities, many pictures, and materials for construction and illustration (see pages 215-225) and allows the children to talk about possible plans, to express their ideas about undertakings, to tell what they saw on a trip, to explain how and why they have made something, there is plenty of opportunity for conversation and other forms of verbal expression. In situations calling for conversation, the teacher must learn to wait for the children's ideas and accept each expression for what it means to the child. If she forces expression before there is a real impulse for it on the part of the children, and if she accepts and approves only what measures up to her standards, the children lose interest and become discouraged in their efforts. Giving simple explanations and directions will also be a part of conversation periods. Situations in which the group can express themselves in conversation with one another and with the teacher should be at least as frequent as periods for storytelling and report giving.

Increasing the Speaking Vocabulary. The experiences in a unit program will continually call for new words. The teacher should keep in mind that the mentally retarded child must hear these new words repeatedly associated with an object or an action and then have the need for using them in his own expression. *Vocabulary lists are helpful in reminding the teacher of the words she should use in her conversation with the pupils and in encouraging the pupils to use these same words as they express themselves.* Vocabulary lists giving a variety of words to express the same meaning are also helpful. In making lists, the teacher should guard against the use of technical and abstract words, as mentally retarded pupils have not the capacity to learn to use them with ease.

Improving Usage of English. Good English usage comes only through a consciousness of error, a desire to improve, and the opportunity for practice. In a unit program, the teacher has ample opportunity for noting awkward expressions and errors.

However, she must guard against calling attention to errors and making the child conspicuous in a period when she is trying to secure spontaneous expression of thought. The teacher can call attention to good usage in her own conversation and in other children's and so secure group and individual interest for improvement, working specifically toward the correction of certain outstanding errors and encouraging the child to watch for and correct his own errors insofar as possible. Along with the need for good English usage goes the need for clear articulation and enunciation.

Improving Speech. Speech improvement includes better speech for all pupils and the correction of minor and serious speech irregularities. While the majority of all children entering school at five or six years of age have understandable, clear speech, speech defects are often found among retarded children. It should be recognized that the child may make progress in language activity but still have faulty or slovenly speech. Acceptable speech, however, can be developed as one of the assets of a majority of these pupils. The teacher also will lose a valuable opportunity for developing social acceptability in these pupils if she neglects the area of speech.

In addition to taking a basic course in speech improvement, the teacher will benefit by training in the recognition and treatment of voice defects found frequently in the slow-learning group. Whatever the teacher's training in speech improvement, she will find valuable current material prepared for aiding both teacher and parent to understand and assist the child. She should refer the more serious cases of delayed speech, organic defect, hearing loss, and stuttering to the specialist, i.e., a speech correctionist on the school staff, in a child guidance clinic or university speech or hearing clinic.

The speech correctionist trained and experienced in serving the more seriously afflicted as well as those with mild deviations can greatly aid the special-class teacher with or without training. The specialist can suggest materials and methods that the classroom teacher can profitably use in screening the children and in treating minor defects. She can counsel with the classroom teacher on the speech problems of the individual child. She can aid the parent in understanding the child's problem and in recog-

nizing his progress. The specialist should have time set aside in her program of total school service for severe cases of organic disorder or stammering since the educable child can benefit to an appreciable degree. The speech correctionist often affords the encouragement that stimulates the classroom teacher to continue her efforts on behalf of the individual child.

Whatever the available services, the special-class teacher must recognize speech problems, cooperate with the specialist, and aid the child in his daily classroom living toward improved speech.

The following is a brief statement of speech disorders which the special-class teacher may meet and with which she should be familiar.

1. *Defects in articulation* consist of:
 - a) The substitution of one sound for another, such as *w* or *o* for *r*, *th* for *s* or *z*, *d* for *g*, and *t* for *k*.
 - b) Omissions of a sound, such as *l*, *h*, *s*.
 - c) Lateral *s*, emitting the breath from the side of the tongue instead of tip.
2. *Delayed speech* is closely related to defects in articulation. There are children who haven't learned to talk, or who talk very little, whose speech development has been interrupted, or whose distorted speech is difficult for others to understand. These children, in reality, may have severe cases of articulatory disorders.
3. *Stuttering* is a pattern of speech by which the individual repeats sounds, syllables or words, or blocks, and is unable to "get started" in speech.
4. *Voice defects* may be analyzed as to four basic characteristics:
 - a) Loudness or softness.
 - b) Pitch too high, too low, or monotonous.
 - c) Rate too rapid, too slow, or jerky.
 - d) Unpleasant quality—hoarse, husky, harsh, nasal.
5. *Oral inactivity* or inaccuracy may be described as a pattern of careless, indistinct speech, marked by poor enunciation.
6. *Foreign dialect* is sometimes a combination of sound substitutions, incorrect inflection, and unusual rhythm.
7. *Organic speech defects* are:
 - a) Faulty habits of articulation and nasality due to a cleft palate.

- b) Cerebral palsy speech resulting from insufficient muscular control for developing a normal speech pattern. Defects vary from mild to severe conditions of inarticulation, distortion of sounds, poor voice quality, and pitch variations.
8. *Speech of the hard of hearing* may be more or less affected as to articulation, loudness, pitch, and quality depending on the degree and nature of hearing loss.

For all children, oral expression will be enhanced in the friendly, wholesome atmosphere of acceptance and encouragement which should permeate the special class. The teacher's voice and manner of speaking not only should contribute toward a healthy emotional climate in the classroom but should set a speech pattern that is worthy of imitation. Pleasing voice quality, correct diction, and accepted pronunciation and rhythmic expression are fundamental requirements for the teacher. American schools and homes have paid too little attention to the development of acceptable speech for all children. The attention to speech improvement in teacher-education institutions is encouraging. The special-class teacher has a special challenge and special opportunities for contributions in this area.

Pursuing the goal of speech improvement for all of her pupils, the teacher will provide many experiences which foster good speech and will try to inculcate such habits as are suited to the particular child whose speech is defective. She will provide ample time for (a) expression through bodily activity, such as relaxation periods, games and dramatized jingles, plays, and stories, (b) listening to selected rhythms, poems, and stories read by the teacher or played on the victrola, and (c) speech games with selected pictures, objects, and toys. Attention during the earlier years will correct many defects. For the more serious defects that persist in adolescence, there are also suitable materials and methods. (See references at the end of this chapter.)

Written English

Writing and spelling are skills needed in written English and should be treated as such. The incentive for neat, legible writing should come from the needs the child recognizes—

tagging his possessions with his name, sending an invitation, writing a letter, and so on.

Improving Writing Ability. No one system of writing can be recommended as better than another for the mentally retarded. Since studies of handwriting indicate that the majority of persons use a combination of arm and finger movements, it is safe to assume that this fact should be recognized in teaching this group. In the early stages of learning to write, when the child is first becoming acquainted with the forms of letters, very *careful plans for practice of words and letters are necessary.*

*Quality of writing*¹ is significant at all age and ability levels, but speed is unimportant. The greatest gain to the child probably comes through his being helped to diagnose his own writing weaknesses and to work for improvement. Some simple instructions that might help him to attain writing ability are suggested:

1. Watch the height of letters above the base line.
2. Keep letter formation uniform; i.e., make all o's and a's round and closed, keep slant of letters on downward and upward strokes parallel.
3. Keep all letters resting on the base line.
4. Space letters, words, and lines uniformly.
5. Maintain a good position.

Manuscript writing is now generally taught in the primary grades. It has certain advantages for the slow child—ease of learning, early legibility, its likeness to the printed page, and the satisfaction it brings to the young writer. A standard manuscript form should be used and methods for teaching it thoroughly mastered. The teacher should also perfect her own skill for use in chart and board work.

Children enjoy using writing scales to judge improvement in their writing. The teacher will find that it is a good plan to post writing scales to which the child can frequently refer. The following scales are suggested:

¹ A quality rating of good in the American Handwriting Scale is recommended. This will allow for some falling away from standard.

<i>Grades</i>	<i>Writing Scales</i>	<i>Publisher</i>
5-8	Ayres Handwriting Scale	Bureau of Educational Research and Service Extension Division, University of Iowa, Iowa City
1-4	Conrad Manuscript Writing Standards Scale for Pencil Work Scale for Pen Work	A. N. Palmer Co., New York
2-8	American Handwriting Scale	
2-8	Freeman Handwriting Scales (Diagnostic)	Zaner-Bloser Co., Columbus, Ohio

There is evidence in the accounts of units given in preceding chapters that many situations in the modern classroom will provide opportunities for meaningful experiences in writing letters. Even the very young children may feel a need for copying invitations and requests. Later the cooperative preparation of a letter, and, finally, independent letter-writing, will come to fill important needs in the life of the pupil.

A basis for skill in letter-writing is laid in practice in oral expression, the writing of simple statements, later, in the writing of paragraphs to convey interesting information, and in gradual acquaintance with letter form. Too much cooperative story- or letter-writing or copying is inclined to make the child dependent on others in his expression. The child with even the most meager spelling ability should be encouraged to write some statements of his own—he can be given help with the spelling. Pupils with third-grade spelling ability and above should compose their own stories and letters.

Improving Spelling. Spelling should be thought of as a necessary aid to written English, not as a separate subject. The daily memorization of lists of words has generally no carry-over to the situations where spelling is needed. The real challenge to learning to spell is, "What words must I be able to spell in order to carry on my work?" or, "How often can I make use of the words I am learning to spell?" Real needs for spelling will arise in connection with listing games learned, writing information and stories, formulating rules for conduct in certain situations, writing letters, directions, and so forth.

Spelling should not be taught until the child has some foundation of reading experience. For the majority of special-class pupils, other things being equal, spelling should be incidental up to the *chronological age of nine and a half or ten years*. Deliberate attempts at mastery should not begin until this age or later. If the pupil acquires five to seven new words a week from the time he is nine or ten until he is sixteen years old, he will, at sixteen, have an approximate spelling vocabulary of 1,400 to 1,600 words, the average expectation for the average nine- or ten-year-old.

A basic vocabulary of most frequently used words should be supplemented by other words the children commonly require in their written work. The teacher, however, must be on her guard against teaching the unusual word that the child needs only for a special occasion or a current activity.²

Teaching spelling requires attention to the facts that spelling involves motor activity and that the child must attend closely to writing the words he learns. The following is an outline of teaching directions to help the child cultivate sound spelling habits.

1. Look at the word and say it distinctly by syllables.
2. Spell it by syllables.
3. Close the eyes and try to see each syllable as you say it.
4. Open the eyes to see if it is right.
5. If not, pronounce it in syllables. Spell it letter by letter. Try again.
6. When right, write the word.
7. Look again to see if you have it right.
8. Write the word three times without once copying from yourself.

With children of thirteen years and older, the spelling words to be studied during the week should be tested on Monday so

² Out of 175 words chosen in a sampling of spelling vocabularies used in units on food and shelter, 161 appeared in the Thorndike list and were located as follows: 1 to 2,000, 36 per cent; 2,000 to 4,000, 22 per cent; 4,000 to 10,000, 34 per cent. Estimated from this sampling, a third or more of these words were unsuitable for spelling words. The teacher is advised to check to see that "interest" or "unit" words appear on some reliable spelling list, either that used by the regular grade or on some scientifically constructed published list.

that each child may concentrate on his own failures during the week. Individual study should follow. The child should then be checked again on Wednesday, and finally on Friday, individual study always being concentrated on the needs as revealed in the tests. The keeping of individual spelling lists of words to be learned is recommended.

Reading

The slow-learning child, like other children, is aware that reading is a highly valued achievement in school life. Both types of reading—for pleasure and for information—will play an important part in the life experience of the slow-learning as well as of the average child. Slow-learning children must, therefore, be helped to whatever mastery of this tool they are capable of attaining.

Reading Readiness of Children. It seems agreed that children should not undertake reading at any level without mental readiness, social-emotional readiness, and physical readiness. But too often these factors are overlooked. In the grade situation, the mentally retarded child is exposed to the program for the average child for which he is in no way ready. In the special class, also, the teacher too often assumes that individual attention will make up for the child's lack of readiness. There will be individual cases where even experiences must first be developed to provide an adequate language background for reading, where attitudes unfavorable to learning must be changed or physical defects corrected before reading instruction is begun. Many times the child's background of experiences and concepts must be greatly extended before he has the interests or the vocabulary essential to a satisfactory beginning in reading. In these cases, the teacher must first plan many activities that will involve such experiences before any real reading instruction is undertaken.

Pupil attitudes toward reading must often be changed before the child is ready to begin any real practice in reading, for many mentally retarded pupils have already attempted and failed in reading before their entrance into the special class. This failure has, in many instances, been the clue to their need for psycho-

The majority of pupils with I.Q.'s of from 66 to 75, given the right guidance, can leave school at sixteen years with a fair degree of reading ability. For any pupils in this group who do not succeed in learning to read after repeated efforts of the teacher with different methods, a special study should be made by the teacher, a psychologist, or reading specialist. The teacher can no longer be complacent about the child with an I.Q. above 65 who does not learn to read. Research is constantly discovering ways of dealing with the special difficulties of children that should make it possible for every child above this level, where there are no other serious obstacles to learning, to attain a fair mastery of the tool of reading. The mentally retarded child, however, is not likely ever to attain a rate of reading rapid enough to make him a really effective reader. The distinction made by Dolch between "inaudible" and "silent" reading suggests the possible limitations of the slow-learner as a reader. The tendency among mentally retarded children of voicing inaudibly the sounds represented in their reading tends to keep many of these children in the class described by Dolch as "inaudible" readers. It is doubtful if they will ever become really efficient "silent" readers. This idea suggests the need for the teacher to concentrate her efforts on developing comprehension at the child's level rather than on attempting to increase his rate of speed beyond the point determined by careful study to be a reasonable standard for him.

Teacher's Understanding of the Reading Process. As suggested earlier, the teacher of mentally retarded children should have knowledge of the reading process and methods of teaching reading. Acquaintance with one or more of the recent reading texts and a basic reading series is recommended. The better the teacher understands the complexity of the reading process, the better she will be able to understand the sequence and method required for teaching the mentally retarded child. In addition, it is more likely that she will avoid the danger of expecting progress without the necessary learning steps. Such an expectation will seriously hamper the child's efforts.

The teacher should have a sound knowledge of the following:

1. Psychological factors of sensation, perception, recall, concept-building, generalization, and comprehension.
2. The stages or levels of development—reading readiness, the beginning reading period, the initial independent reading period, the primary-grade period and the intermediate-grade period; adaptations to individual differences.
3. The developmental phases or sequences of the reading program extending from the primary years through the intermediate—vocabulary building, word recognition and word attack, comprehension, oral reading, silent reading, work-type reading, reading for pleasure.
4. Reading failure—its causes and diagnosis—and remedial techniques.

The teacher must understand what part perception, recall, concept-building, and generalization play in the comprehension of a word, a phrase, or a sentence heard orally or seen in print. She must be aware of the several aspects of development in reading readiness and the essentials for success in the beginning reading period so that she will recognize when the pupil is ready for independent reading. The teacher must know the developmental sequences in vocabulary-building, in acquiring phonics as a tool for word attack, and she must know the differences between the skills required for successful oral and silent reading. Finally, she must know the causes of reading failure (and how to look for causes other than low intelligence), and she must be aware of different remedial approaches suited to the individual case.

Sequence in the Reading Program

The mentally retarded child needs time to grow and to participate in a variety of experiences that develop abilities requisite for beginning reading. These abilities are (1) social-emotional aspects of sharing, taking turns, listening, and attending to and finishing a task, (2) adequate speech and auditory language, (3) correct enunciation and pronunciation, (4) interpretation of pictures, (5) memory for sentences and ideas, (6) visual memory and discrimination, (7) auditory memory and discrimination, (8) left-to-right eye movements, and (9) eye-hand co-ordination.

The increasing amount of material furnished by the basic reading series for auditory and visual discrimination, language sequence, picture interpretation, and so on, offers a wealth of suggestions that can be used for mentally retarded children. Reference has been made to the nature of learning experiences suitable for all-round development during the ages of five, six, seven, and eight years (see pages 282-285). Such experiences promote reading readiness on the part of the child.

As the teacher plans for the specific needs of a particular child, she should aid the parent to recognize how picture interpretation, increased vocabulary, command of longer sentences, following directions, and so on, are necessary skills in preparation for reading. By doing so she will relieve the parents of some anxiety and build their confidence in their child's ability to learn, although at a very slow pace. Teacher and parent approval and simple records and charts will enable the child to recognize his progress during this period. Reading success without periods of failure can be achieved more frequently by mentally retarded children when their limited potentialities are discovered early and they are given educational programs to foster all-round growth, including reading-readiness abilities.

Initial Period. When should the initial reading period begin for the mentally retarded child? The transition comes during the period of acquiring reading readiness when, among other things, the pupil is ready (1) to associate words and ideas with symbols, (2) to see likenesses and differences in those symbols as clues to auditory and visual recognition and memory, and (3) to attend to beginning reading tasks.

Among other experiences, numerous opportunities for incidental reading of words and phrases from the bulletin board, labels, picture titles, picture stories, rhymes, and so on, during the readiness period have prepared the child for beginning reading. He is now ready for chalkboard and chart stories of his own experiences. These stories should, of course, employ the vocabulary and sentence structure which he is accustomed to hear and use.

The teacher should check the vocabulary of "experience" stories with basic word lists such as the Gates Primary Word

List³ and the Dolch Basic Sight Vocabulary.⁴ By careful checking, she can select the most common words and phrases for practice and mastery and disregard the occasional and unusual word that may have been used because of its immediate interest. She should note not only vocabulary, but also length and structure of sentences and likenesses and differences among word forms.

This experience reading lays the basis for beginning primer and first-grade reading from a basic series. Although no basic reading series is entirely satisfactory for the mentally retarded child, the material can be adapted successfully by the trained teacher. The easily mastered vocabulary, the attractive illustrations and type, and the story interest make these books attractive to mentally retarded children ten or eleven years of age and younger. The teacher's manuals for texts and workbooks written by authorities in the field are valuable sources of information on methods. They offer much help, for example, in planning a sequence for vocabulary building, in teaching word identification, eye habits, oral reading, work-type reading, and comprehension.

Plan of Instruction. The mentally retarded child will benefit by a systematic plan of instruction throughout his school life. Whether the teacher employs a basic reading series with supplementary reading experience or continues to rely mainly on reading materials built from experience, there must be definite plan and sequence for the child. The communicative or language arts attainments outlined in Chapter 10 indicate the reading skills needed for personal-social adjustment and reading independence in the practical, everyday situations that the child will meet.

Vocabulary Building. Vocabulary is a necessary requisite for reading. Hence, the teacher will constantly be aware of the child's progress in oral expression. What is his level of ability for understanding stories and informational material read to

³ Arthur I. Gates, *A Reading Vocabulary for the Primary Grades* (New York: Teachers College Bureau of Publications, Columbia University, n.d.).

⁴ Edward W. Dolch, *Basic Sight Vocabulary Cards* (Champaign, Ill.: The Garrard Press, n.d.).

him—what is his hearing vocabulary? What is his level of ability for communicating ideas to others—what is his speaking vocabulary? Is he improving in oral communication? Teacher planning from day to day and from year to year is vital to insure the growth of a common basic vocabulary for oral communication and for reading.

Word Recognition. Growth in vocabulary is basic to this primary skill which consists of word perception and word attack or word analysis. The development of this skill cannot be left to trial-and-error method. The increasing attention given to sequence and methods for word recognition in current reading texts indicates its importance for successful reading. During the period of reading readiness and the initial reading period, the mentally retarded child will be guided to a recognition of words by (a) general pattern or configuration, (b) auditory and visual clues, and (c) the use of picture and context clues.

When the child has a sight vocabulary of 50 to 100 words, a definite plan of phonics can be introduced, but not without study and knowledge on the part of the teacher of a phonics sequence and adequate techniques for sounding and blending. Teachers who attempt phonics without such knowledge and skill will proceed haltingly and confuse the child. The new basic reading series outline phonic sequences as a method of word attack.

The use of context clues is another method of word recognition. The teacher must recognize, however, the limitation of the mentally retarded child in associating ideas and in generalization. The child must be thoroughly conversant with the reading content in the early periods of reading. Difficulty with the basic reading series is many times due to lack of familiarity with the vocabulary, the concepts, and the sentence structure employed. Context will not aid the child if, for example, the word or the expression is completely unfamiliar to him, if he cannot readily recall related ideas and associate them with the unknown word or phrase. Retarded children can learn to recognize words by their general pattern, by their similarity to known words, and by their unusual characteristics, if any.

Comprehension. Comprehension is another essential reading skill. The teacher of the mentally retarded must constantly aid

the child in applying the meaning of visual symbols. This is especially necessary in providing reading practice that the pupil can carry out independently. Gates described the "intrinsic" method as:⁵

. . . one which is not separate or supplementary but an integral part of the natural process of reading. It consists of a type of organization of a reading situation which guides or impels the pupil to react in a desired way while his efforts are directed to accurate interpretation and normal enjoyment of the content. . . .

After reading a short story the pupils solve such comprehension problems as the following:

Who got most of the milk?

the rat?

the cat?

the bat?

How did the little girl feel?

She felt sad.

She was mad.

She was glad.

These exercises are not separated from useful reading work since they constitute a very helpful means of increasing comprehension. They also add to the enjoyment of reading and stimulate a desirable attitude toward it. It is merely the arrangement of the task that forces the child to distinguish carefully between similar words and throws into relief the common elements.

The workbooks of recent reading series abound in similar kinds of exercises of the true-false, completion, directions, and matching types. Similar methods of "intrinsic" organization can be employed in teacher-made materials growing out of units or other experiences.

Oral and Silent Reading. Both of these have their place in the classroom. Oral reading is a necessary phase of beginning reading for every child. The slow-learning child enjoys oral reading over a longer period in his development than the brighter child. He gains a feeling of confidence and satisfaction from the auditory stimuli and motor component of speech afforded by reading aloud. He likes to hear himself read and to hear others. Oral reading, like silent reading, should always be motivated or it can become a form of "recitation" with little value.

⁵ Arthur I. Gates, *The Improvement of Reading* (3d ed.; New York: The Macmillan Co., 1947). Quoted by permission.

Successful group or individual instruction in reading calls for (a) thorough knowledge of each child's abilities and difficulties, (b) materials and methods suited to his stage of mental, social-emotional, and physical readiness, (c) provision of much easy reading, and (d) recognition of pupils' success and progress.

Use of Standardized Tests. Standardized tests may be used as an aid in determining the relation of the reading ability of the special-class child to standards for the average child. They may also be used to measure improvement over a period of a year or longer. Standardized tests will, of course, be chosen on the basis of how they are suited to the ability of the group and of the individual to be tested. The following tests have been found to be satisfactory for special classes:

FOR AGES EIGHT TO TWELVE YEARS

<i>Grades</i>	<i>Readiness Tests</i>	<i>Publisher</i>
1	Gates Reading Readiness Test	Bureau of Publications, Teachers College, Columbia University
1	Metropolitan Readiness Tests	World Book Co.
1	Monroe Reading Aptitude Test	World Book Co.
1	Van Wageningen Reading Readiness Test	Educational Test Bureau
<i>Primary Tests</i>		
1	Stone-Webster Test in Beginning Reading	Webster Publishing Co.
1-3	Detroit Word Recognition Test	World Book Co.
	Gates Primary Reading Tests	Bureau of Publications, Teachers College, Columbia University
1-2.5	Type 1. Word Recognition	
1-2.5	Type 2. Word, Phrase, and Sentence Reading	
1-2.5	Type 3. Reading and Directions	
1-8	Gray Oral Reading Test	Public School Publishing Co.
1-8	Gray Standardized Oral Reading Check Tests	Public School Publishing Co.
1-3	Metropolitan Achievement Tests —Primary Reading	World Book Co.
1-3	Williams Primary Reading Test	Public School Publishing Co.
1-3	Progressive Achievement Test— Primary Reading	California Test Bureau

FOR AGES TWELVE TO SEVENTEEN YEARS

<i>Grades</i>	<i>Tests</i>	<i>Publisher</i>
3-8	Gates Silent Reading Tests Type A. Reading to Appreciate General Significance Type B. Reading to Predict the Outcome of Given Events Type C. Reading to Understand Precise Directions Type D. Reading to Note De- tails	Bureau of Publications, Teachers College, Columbia University
4-6	Haggerty Reading Examination, Sigma 3	World Book Co.
	Metropolitan Achievement Tests	World Book Co.
3-4	Elementary Reading Test	
5-6	Intermediate Reading Test	
	Stanford Achievement Test,	World Book Co.
4-6	Intermediate Reading Test	
	Progressive Achievement Tests,	California Test Bureau
4-6	Elementary Reading	

Use of Informal Tests. The teacher will find that interest in reading will be stimulated if from time to time she also makes use of informal tests to check the children's progress. The following attainments suggest types of tests that may readily be devised by the teacher for use with children at various age levels:

FOR AGES TEN TO TWELVE YEARS

1. Reads independently, with a considerable degree of accuracy, a thought unit containing six well-constructed sentences involving familiar vocabulary of second-grade difficulty. The thought unit used in testing should not exactly duplicate material previously read.
2. Answers three out of four written questions on the content of the thought unit.
3. Shows accuracy in word recognition in reading selection. Two errors for every forty words should be considered reasonable accuracy.

FOR AGES THIRTEEN TO FIFTEEN YEARS

1. Reads a story independently, with considerable accuracy. *This story should be chosen because it contains a familiar vocabulary of the proper degree of difficulty for this age*

group. It should not have been previously read by the child.

2. After reading the selection silently, the child does one of the three following things:
 - a) Answers correctly, without reading orally, four out of five written questions.
 - b) Answers seven out of ten completion statements.
 - c) Answers ten out of twelve true-false statements.
3. Asks two questions pertaining to the story read. Simple questions of fact are satisfactory for this test.
4. Reads the selection orally to show accuracy in word recognition. Five errors for every one hundred words is considered reasonable accuracy.

The teacher may give letter ratings (A, B, C, or D) on performance, or use number ratings, allowing 1 or 2 for each correct response. Any score that is objective evidence to the child of his success is adequate. The value of such testing to the teacher lies in helping her to determine the individual progress made and the work that she needs to review and supplement.

Mentally retarded children should be tested not only on the forms of reading commonly tested, but also on the type of reading for which the school proposes to train them specifically, such as sign reading, newspaper reading, and so on. Following are excerpts from tests designed for this purpose:

FOR READING SIGNS

PRACTICE SAMPLE

Put a cross (X) on the sign that tells you to be careful:

Give more

Dangerous

Fresh eggs

1. Put a cross (X) on the sign for a public park:

Fire escape

Keep off the grass

Keep out

2. Put a cross (X) on the sign for an empty house:

For rent

Railroad crossing

Wet paint

3. Put a cross (X) on the sign for a railroad crossing:

Private

Do not touch

Stop. Look. Listen.

FOR NEWSPAPER READING

(Each child has a copy of a newspaper)

PRACTICE SAMPLE

From your newspaper cut out the answers to the following questions and paste:

What does the paper cost?

Paste here ()
()

From your newspaper cut out the answers to the following questions and paste:

1. What is the day and date on this paper?

Paste here ()
()

2. What is the weather report?

Paste here ()
()

3. Choose the name of the comic strip in this paper that you like best.

Paste here ()
()

4. Find a grocery ad. Cut out the names of four things sold in a grocery store.

Paste here ()
()
()
()

5. Find an ad under "Help Wanted—Female."

Paste here ()
()

6. Find a short item of news about your city.

Paste here ()
()

Stimulating an Interest in Books. Reading today is enjoyed by increasing numbers of people. As travel, the radio, television, and the movies increasingly widen interests, people find more and more in books to interest them. Books too are increasingly attractive. Books suitable for and appealing to children of all ages, from nursery school age on, are being produced in great numbers.

Slow-learning children in both their school and outside experiences sense a need for reading. Ability to read is recognized by many children and adults as one measure of success in life. The case of the special-class child who carried to and from school many books because he wished to be like his normal brothers and sisters suggests the importance put on books and reading in the thinking of even the slow-learning child. Parents, too, are likely to be sensitive to the fact that a child does not read. It is accordingly the school's obligation to encourage and to develop in the many who can reach this goal sufficient reading ability to read independently for enjoyment. Such facility will, however, not be attainable for all special-class children.

There are many ways of stimulating an interest in books. Any or all the following experiences are bound to lead to growth in interest: frequent listening to readings from well-chosen, attractive books that suggest the spontaneous joy to be derived from reading; making books that include stories, illustrations, and tables of contents; easy access to an attractively arranged book corner or reading table, or to a library arranged and managed by the children; making regular trips to the library; consulting well-planned book lists with suggestions or captions to direct choices; recording in a book catalogue or scrapbook interesting things about books read. The teacher who acquaints herself with current literature for children cannot fail to become enthusiastic about the pleasure that books can give her pupils. Children's librarians employed in the public libraries are delighted to aid both teacher and children in the selection of suitable books.

It should be emphasized again that good speech and oral language commensurate with their communicative needs are within the reach of mentally retarded children. Mastery of these

skills is a vital factor in the child's successful adjustment. Reading and writing, too, fill a practical and personal need. The school cannot afford to miss its opportunity for planning and developing specific methods of teaching the communicative arts to the mentally retarded child.

Questions and Suggestions for Study

1. Suppose your special class is building a toy store. Suggest a series of five reading lessons that might be developed for the primer group. List first the principles that will govern you in planning the lessons.
2. John, age fourteen years, I.Q. 68, is a baseball enthusiast. The teacher begins to make a reader about baseball for John. He is not interested. What may be the reasons?
3. State your understanding of the "intrinsic" device in reading. Compare its value with that of the "extrinsic" device.
4. Choose a story from a first reader of any of the series listed. Study the suggestions given in the manual for developing it with a class. Plan five "intrinsic" exercises to aid in word recognition.
5. List as many specific life situations using language as you can think of that the mentally retarded will meet, such as conversing over the telephone, introducing a guest, etc.
6. Review the discussion of "experiences" on pages 215-17. Discuss briefly how each type contributes to the development of ability in English.
7. What proportion of the school week do you think should be given to oral and to written English with mentally retarded children aged eight to ten years? fourteen to sixteen years? Give reasons for your answers.
8. The average child at eight years has a speaking vocabulary, a spelling vocabulary, a reading vocabulary. What is the usual order of their development up to this point? their comparative size?
9. Which is more important in spelling study, oral or written spelling? Why?
10. Set up standards for judging spelling curriculums and spelling methods.
11. Discuss the practice of having the children use spelling words in oral sentences; in written sentences.
12. What advice and explanation would you give to the teacher who asks the child to write ten times every word he is to learn to spell?
13. Suggest motives and materials for introducing writing to the mentally retarded child of nine years of age.

14. Make a plan to aid mentally retarded pupils fourteen and fifteen years of age in improving their handwriting.

Reading References

Language

ADAMS, FAY. *Educating America's Children*. New York: The Ronald Press Co., 1954, pp. 428-82.

Gives in a brief, concise way the purposes, content, and methods for a language arts program.

ARBUTHNOT, MAY HILL. *Time for Poetry*. Chicago: Scott, Foresman & Co., 1952.

A range of verse to bring delight and joy to children.

BROWN, HELEN A., and HELTMAN, HARRY J. *Let's-Read-Together Poems*. Evanston, Ill.: Row, Peterson & Co., 1958.

A complete choral reading program beginning at kindergarten level; very good for full classroom participation.

KIBBE, DELLA E.; LABRANT, LOU L., and POOLEY, ROBERT C. *Handbook of English for Boys and Girls*. Chicago: Scott, Foresman & Co., 1939.

A simple, clear presentation of language skills that pupils may use independently; useful for retarded adolescents.

KVARACEUS, W. C. "Handwriting Needs of Mentally Retarded Children and of Children in Regular Grades," *Elementary School Journal*, 55 (Sept., 1954), 42-44.

Describes a study to determine whether mental retardation of children has an influence on kind or amount of difficulty with handwriting.

STRICKLAND, RUTH. *The Language Arts in the Elementary School*. Boston: D. C. Heath & Co., 1951.

A study of the development of language and its relationship to growth. Chapter 9 discusses "Vocabulary Development"; Chapter 10, "Matters of Usage."

Speech

CHIPMAN, SYLVIA. *The Child's Book of Speech Sounds*. Boston: Expression Co., 1954.

Gives specific information on the formation of each sound with appropriate exercises.

JOHNSON, WENDELL, et al. *Speech Handicapped School Children* (rev. ed.). New York: Harper & Bros., 1954.

A clear presentation of speech problems and how to treat them. Written for the classroom teacher.

JONES, MORRIS VAL. *Speech Correction at Home*. Springfield Ill.: Charles C. Thomas, 1957.

Suggestions to parents for aiding the child to correct his speech.
NEMOY, ELIZABETH, and DAVIS, SERENA. *Correction of Defective Consonant Sounds*. Boston: Expression Co., 1954.

A teachers' manual of ear-training stories and motivated lessons for group or individual instruction.

SCOTT, LOUISE, and THOMPSON, J. J. *Speech Ways*. St. Louis, Mo.: Webster Publishing Co., 1955, pp. 141-99.

Written to aid the intermediate-grade teacher in correcting consonant sounds.

SCOTT, LOUISE, and THOMPSON, J. J. *Talking Time*. St. Louis, Mo.: Webster Publishing Co., 1951, pp. 44-230.

Written to aid the primary-grade teacher in guiding speech development and correcting speech sounds.

UTLEY, JEAN. *What's Its Name*. Urbana, Ill.: University of Illinois Press, 1950.

A complete picture procedure for teaching sounds and names of common objects to deaf and hard-of-hearing children; includes a list of "do's and don't's" for teacher and parents.

Reading

BETTS, EMMETT A. *Foundations of Reading Instruction*. New York: American Book Co., 1950.

A complete source book for the entire reading program, containing a detailed account of the nature, skills, and development of reading. See Chap. 24, "Vocabulary Development," pp. 577-703; Chap. 14, "Developmental Activities and Materials," pp. 251-78; Chap. 17, "Language Facility," pp. 305-27.

DOLCH, EDWARD W. *A Manual for Remedial Reading* (2d ed.). Champaign, Ill.: Garrard Press, 1945.

A simple, direct presentation of procedures for remedial reading.

DUNN, LLOYD M. "A comparison of the Reading Processes of Mentally Retarded and Normal Boys of the Same Mental Age," *Monographs of the Society for Research in Child Development*, Vol. 19, No. 58 (1954), pp. 1-99.

Reports results in oral and silent reading; analyzes reading errors and other factors affecting reading achievement, noting similarities and differences between average and mentally retarded boys.

DURRELL, DONALD D. *Improvement of Basic Reading Abilities*. Yonkers, N.Y.: World Book Co., 1957, pp. 162-95.

Presents word recognition skills and word meaning with teaching devices and exercises.

GRAY, LILLIAN, and REESE, DORA. *Teaching Children to Read* (2d ed.). New York: The Ronald Press Co., 1957.

A comprehensive study of all phases of the reading program, with detailed helps, outlines, and lessons plans. Presents material on

discovering and correcting reading difficulties and on the handling of unusual reading problems.

KIRK, SAMUEL A. *Teaching Reading to Slow-Learning Children*. Boston: Houghton Mifflin Co., 1940.

A text devoted to objectives and methods for teaching reading to educable children.

McKIM, MARGARET G. *Guiding Growth in Reading*. New York: The Macmillan Co., 1955, pp. 184-86, 366-68, 217-54, 347-75.

Discusses the adjusting of activities for retarded readers and the development of skills through ongoing classroom activities.

RUSSELL, DAVID H. *Children Learn to Read*. Boston: Ginn & Co., 1949, pp. 183-201.

Presents the developmental phases of a reading program, the development of vocabulary, methods, understanding of concepts, and vocabulary lists with sources.

Basic Reading Series

O'DONNELL, BETTS, *et al.* *Alice and Jerry Reading Program*. Evanston, Ill.: Row, Peterson & Co.

Includes a readiness program, workbooks, text films, and a supplementary reading program. Gives a plan for adjusting to slow readers.

RUSSELL, HAYNES, *et al.* *Ginn Basic Readers*. Boston: Ginn & Co.

Readiness procedures are given in the lesson plans at succeeding levels. Tests of comprehension, word study, and study skills are included in end-of-unit activities. Has enrichment reader series: designed to help the individual child, superior or retarded.

McKEE, HARRISON, *et al.* *Reading For Meaning Series*. Boston: Houghton Mifflin Co.

Well graded with content that appeals to children. Supplementary materials lend to adaptation for retarded pupils.

SHELDON, MILLS, and MOWER. *The Sheldon Basic Reading Series*. Boston: Allyn and Bacon, Inc.

Content and pictures related to common experiences of child life. The vocabulary load is well graded.

Selected Supplementary Books

Beginning to Read Books. Chicago, Ill.: Follett Publishing Co.
Reading level from first through third grade.

Hymes Books to Start On. Evanston, Ill.: Row, Peterson & Co.

Four books containing eight stories which the teacher can read aloud and that pupils can read again with the aid of pictures and key words. Readiness period.

Help Yourself Activity Books. Racine, Wis.: Whitman Publishing Co.

Six titles; very helpful for reading skills. Reading level, grades 1 to 3.

Reading Adventures. Columbus, Ohio: Charles E. Merrill Books, Inc. Books A, B, C, grades 1 to 6. All three books contain material on the same topics.

Reading Skilltexts. Columbus, Ohio: Charles E. Merrill Books, Inc. Reading improvement program for grade levels, readiness, grades 1 to 6. Stories followed by skill exercises.

Picture Dictionaries

CLEMONS, ELIZABETH. *The Pixie Dictionary.* New York: Holt, Rinehart and Winston, Inc.

Entries number 290; each entry has an illustration. Good for retarded older pupils.

O'DONNELL, MABEL, and TOWNES, WILLMINA. *Words I Like to Read and Write.* Evanston, Ill.: Row, Peterson & Co., 1954.

Designed for children who read at first-grade level. Entries number 639, which includes 374 words from the first-year vocabulary of *Alice and Jerry Basic Readers*. Easy to use; can be used as a picture-story book.

OPTEDAL, LAURA, and JACOB, NINA. *My First Dictionary.* New York: Grosset & Dunlap, Inc., 1948.

"Every word a picture" is the guiding principle. Few verbs are included. Full-page pictures giving names of items are helpful.

WATTERS, GARNETTE, and COURTIS, S. A. *The Picture Dictionary for Children* (3d ed.). New York: Grosset & Dunlap, Inc., 1948.

To be used after acquiring skill in using an easier-type picture dictionary. Shows both manuscript and cursive forms of writing. Contains 5,079 words and 1,442 pictures.

Selected Series of Books with Low Readability Level and High Interest Content

Air-Age Books. Chicago: Benefic Press.

The American Adventure Series. Chicago: Wheeler Publishing Co.

Aviation Readers Series. New York: The Macmillan Co.

The Basic Science Education Series. Evanston, Ill.: Row, Peterson & Co.

The Button Series. Chicago: Benefic Press.

Childhood of Famous Americans Series. Indianapolis: The Bobbs-Merrill Co., Inc.

Rochester Occupational Reading Series. Syracuse, N.Y.: Syracuse University Press.

Science and Conservation Series. Chicago: Benefic Press.

True Book Series. Chicago: Children's Press, Inc.

The Walt Disney Readers. Boston: D. C. Heath & Co.

What Is It Series. (Supplementary Science Series.) Chicago: Benefic Press.

The World Children Live In Series. Chicago: Silver Burdett Co.

Selected Story Books

"Read to" Books (Ages 6-8)

BAKER, LAURA N. *Friendly Beasts.* Berkeley, Calif.: Parnassus Press, 1957.

BLOUGH, GLENN ORLANDO. *Who Lives in This House?* New York: McGraw-Hill Book Co., 1957.

BUFF, MARY, and BUFF, CONRAD. *Elf Owl.* New York: The Viking Press, Inc., 1958.

BUILFOILE, ELIZABETH. *Nobody Listens to Andrew.* Chicago: Follett Publishing Co., 1957.

COATSWORTH, ELIZABETH. *The Cave.* New York: The Viking Press, Inc., 1958.

EBERLE, IRMENGARDE. *Robins on the Window Sill.* New York: Thomas Y. Crowell Co., 1958.

ELKIN, BENJAMIN. *The Big Jump, and Other Stories.* New York: Random House, 1958.

GEISEL, THEODOR SEUSS. *Cat in the Hat.* New York: Random House, 1956.

KAHL, VIRGINIA. *Habits of Rabbits.* New York: Charles Scribner's Sons, 1957.

MCCLINTOCK, MIKE. *A Fly Went By.* New York: Random House, 1958.

REY, HANS AUGUSTO. *Curious George Gets a Medal.* Boston: Houghton Mifflin Co., 1957.

SCHWARTZ, ELIZABETH, and SCHWARTZ, CHARLES. *The Cottontail Rabbit.* New York: Holiday House, 1958.

WONDRISKA, WILLIAM. *The Sound of Things.* New York: Pantheon Books, Inc., 1958.

Story Books (Ages 9-12)

Reading Level (Grades 1, 2)

BARR, JENE. *Fast Trains, Busy Trains.* Chicago: Albert Whitman & Co., 1957.

———. *Big Wheels, Little Wheels.* Chicago: Albert Whitman & Co., 1955.

———. *Good Morning, Teacher.* Chicago: Albert Whitman & Co., 1957.

———. *Baker Bill.* Chicago: Albert Whitman & Co., 1953.

- . *Ben's Busy Service Station*. Chicago: Albert Whitman & Co., 1956.
- . *Mike the Milkman*. Chicago: Albert Whitman & Co., 1953.
- . *Mr. Mailman*. Chicago: Albert Whitman & Co., 1954.
- BEIM, JERROLD. *Shoeshine Boy*. New York: William Morrow & Co., Inc., 1954.
- BIENBAUM, ABE. *Green Eyes*. New York: Capitol Publishing Co., Inc., 1953.
- DEMING, THERESA. *Little Eagle*. Chicago: Albert Whitman & Co., 1957.
- . *Indians in Winter Camp*. Chicago: Albert Whitman & Co., 1957.
- ELKIN, BENJAMIN. *Six Foolish Fishermen*. Chicago: Children's Press, Inc., 1957.
- ETS, MARIE HALL. *Mr. Penny's Race Horse*. New York: The Viking Press, Inc., 1956.
- GEISEL, THEODOR SEUSS. *Cat in the Hat*. New York: Random House, 1956.
- KING, ROBIN. *Hundle Is a Dog*. New York: E. P. Dutton & Co., Inc., 1956.
- RUSSELL, BETTY. *Chick-Chick Here*. Chicago: Albert Whitman & Co., 1957.

Reading Level (Grades 3-6)

- CHRISTOPHER, MATT. *Baseball Pals*. Boston: Little, Brown & Co., 1956.
- . *Lucky Baseball Bat*. Boston: Little, Brown & Co., 1954.
- . *Baseball Sparkplug*. Boston: Little, Brown & Co., 1957.
- EARLE, OLIVE LYDIA. *Robins in the Garden*. New York: William Morrow & Co., Inc., 1953.
- HARRIS, LOUISE DYER, and DYER, NORMAN. *Slim Green*. Boston: Little, Brown & Co., 1955.
- HUNTINGTON, HARRIET E. *The Praying Mantis*. New York: Doubleday & Co., Inc., 1957.
- ROUNDS, GLEN. *Whitey Ropes and Rides*. New York: Holiday House, 1956.
- . *Whitey Takes a Trip*. New York: Holiday House, 1956.
- SHANNON, TERRY. *Running Fox, the Eagle Hunter*. Chicago: Albert Whitman & Co., 1957.
- ZIM, HERBERT SPENCER. *The Big Cats*. New York: William Morrow & Co., Inc., 1955.
- . *Dinosaurs*. New York: William Morrow & Co., Inc., 1954.
- . *Monkeys*. New York: William Morrow & Co., Inc., 1955.
- . *The Sun*. New York: William Morrow & Co., Inc., 1953.
- . *Comets*. New York: William Morrow & Co., Inc., 1957.

Acquiring Number Skills

The understanding and expression of quantitative relationships might be considered another aspect of the communicative skills. Again and again the child and the adult seek quantitative information and express themselves as to distance, time, weight, size, amount, and cost. How needful then to recognize that the mastery of number concepts and their use cannot be divorced from life situations but are vitally important in communication and in daily planning.

The teaching of number presents a special challenge when one considers the amount of time the retarded child spends on this subject from the primary years on. How can number be made more meaningful to him? Improvement will undoubtedly be made when it is recognized that the child usually begins number study, as he does reading, before he is ready, and when steps are taken to correct this situation. Ideally, number concepts should only be incidental or applied orally to actual situations for the slow-learning to the age of nine or ten years.

Utilizing Experiences in Number Skills

Number is a valuable part of the child's everyday life and of his family's experiences; it is not just a school subject. The term "number" must be recognized as including in its scope counting, computing, measuring, weighing, estimating, buying,

selling, and budgeting. The term "number" also implies concepts of quantity, amount, size, space, distance, and time. The teacher who has this broad concept of number with its social implications is observant of the child's need for and use of number both in and out of school. She recognizes that the child is meeting situations daily which call for quantitative expression. She also helps the child to become aware of how his mother, father, siblings, and playmates are using number every day. For example, his mother counts her money before she goes to the store; she asks the grocer how much eggs or butter costs; she reads what the gas and electricity costs from the monthly bill. His sister counts the knives, forks, and spoons as she sets the table. His father drives the car faster on a country road than in the city (twenty-five miles per hour in the city, fifty miles per hour in the country). The baby's birthday is on May 30, five days away. The postman reads the numbers on the letters and the houses.

The teacher of seven-, eight-, and nine-year-olds will find it helpful to record the child's recognition and use of number concepts and facts. The following are excerpts taken from a teacher's record for a retarded nine-year-old child:

Plays lotto, calls numbers readily.

Reads automobile license plates in school parking area; knows the numbers on father's truck tires.

Knows the number of miles to grandfather's and to cousin's houses in the country.

Reads numbers of houses and stores on class trips.

Takes 25 or 50 cents or \$1.00 to store; names coins given in change.

Knows that family buys two quarts of milk a day and what they cost.

Tells time to go home for supper by church clock; wants to tell time so he can have a watch; made a clock face to play with.

Helps father in bakery, watches him weigh flour, and so forth.

Helped to plan garden, count stakes, rows, and so forth.

Divides his comic books into groups, tells how many in each group.

Reads calendar for day's date.

Shares half of candy bars, cakes, and so on, with brother.

The utilization of experiences in which there is a natural and felt need on the part of the child for number skills provides opportunity for the cumulative development of concepts of quan-

tity, size, time, distance, location, and so on. In the items just noted, a stage in the development of each of these concepts can be recognized. Herein lies the teacher's clue to the developmental aspect of number concepts in their early stages. Similar inventories, as the slow-learning child grows older, will reveal his progress.

Making Arithmetic Practical. In a previous discussion of objectives for number study, the social usage of arithmetic was emphasized (see p. 92). Numerous specific instances of such needs for the fundamental skills are frequently occurring in the classroom. The alert teacher will seize every opportunity to make the child aware of the relationships to these situations of the number skills he is learning. He learns, for example, that spending two cents a day for milk means that, in a week, he spends five two-centses, or ten cents—that $2¢ + 2¢ + 2¢ + 2¢ + 2¢ = 10¢$. He learns that when eight girls and nine boys are

present, there are $\frac{8}{17}$ or $\frac{9}{17}$ pupils all together. The girl knows that "my new dress" takes two and a half yards of cloth. The cloth costs 50¢ a yard. $2 \times 50¢ = \$1.00$. $\frac{1}{2}$ of 50¢ = 25¢. $\$1.00 + 25¢ = \1.25 .

Some teachers are content to keep the child adding and subtracting, and multiplying and dividing, while simple number relationships like the foregoing go by unnoticed. The result is often that the child can add long columns and subtract numbers to the millions place. But to what purpose? In such units as those described in the preceding chapters there are frequent illustrations of need for number and of its application in meaningful situations. To illustrate, there are experiences, such as keeping records by date, estimating and measuring for construction, keeping simple inventories of costs of materials used, and planning for transportation for trips. During the adolescent years, the goals and activities of the secondary-school program offer these pupils abundant opportunity for realizing how number concepts and skills are applied in successful homemaking, timing, buying, budgeting, constructing, and in job study and job-holding. There is no justification for any teacher to spend time on

the teaching of number skills if the child does not have, or does not realize that he has, need for their use.

Providing for Problem-Solving. Too often the statement is made that mentally retarded pupils can succeed in the mechanics of simple fundamentals but cannot solve problems. The administration of the Stanford Arithmetic Tests over a period of four years in special classes of adolescents in Rochester resulted in scores as high in reasoning as in computation—an indication that these boys and girls had learned to apply the arithmetic skills they were able to master.

Thoughtful provision must be made for problem-solving with special-class children. Many of the simple verbal problems encountered in everyday situations should be put to the child to answer orally. Data in the form of real price lists, measurements, and scores should be put in the child's hands, to be used by him as the basis for original problems. He should be encouraged to state and to solve such problems. Written problems presented to the child should be stated directly, kept within his reading vocabulary, and be based on number requirements which he is currently meeting in life situations.

Practice in problem-solving can be carried out also through dramatization of life situations which call for the use of number, such as mailing at the postal service windows, buying by the yard at the dress goods counter or the ribbon counter, buying gas at the gas station, giving and taking grocery or coal orders by telephone, buying tickets at the bus station, and so on.

Number Processes

Just as the teacher needs a thorough knowledge of the psychology of reading and the developmental periods in reading instruction, she likewise must understand the psychology of number and its developmental sequences. The teacher must recognize in the early period of readiness, for example, the difference between the cardinal meaning of numbers and the ordinal meaning.

Introduction of Number Symbols. The ability to recognize number symbols as representing groups of objects must be

carefully developed in the child. He is not ready for the number symbols from 1 to 9 and the quantities for which they stand until he has had numerous directed experiences with the unit 1 and groups of 2, 3, and 4, up to 9.

The child must handle many concrete materials as he combines them into groups. He will collect and draw many pictures of like objects in groups, compare groups of concrete objects, and estimate the total in various groups. He will thereby learn to recognize without counting the number of objects in a small group and the number in a larger group when the objects are arranged in patterns. He will continue to experience in this way until a group of 2, 3, 4, or 5, will have become as much a unit in his thought process as the unit 1.

He will also come to see smaller units or groups in combination as making up the larger unit. For example, 5 objects are arranged in groups of 2 and 3 objects in many situations. The child understands that this same arrangement is 5 whatever the kind of concrete object or picture. Not until he has reached this stage is he ready for the symbols in terms of addition.

The child is thus introduced to symbols and begins to understand and learn in orderly sequence the basic facts and skills in the four fundamental processes and simple fractions.

Sequence in Number Processes. Basic arithmetic texts give attention to the meaning of number, its social usage, and developmental sequences. They provide for an understanding and orderly mastery of fundamental concepts of counting, grouping, units, tens, hundreds, addition, subtraction, multiplication, division, and units of measure. The teacher should have recourse to one or more of the series, including manuals, listed at the end of this chapter. Programs for number readiness and beginning number are particularly suggestive and helpful for the teacher of a primary class. Throughout the early books of any series, lessons using concrete materials and manipulative experiences are abundant. The teaching manuals offer a variety of adaptations that can be used by the teacher. While such texts furnish a guide to an organized sequence of learning activities, no text series will make sufficient provision for the meaning content or varied approaches that the teacher of the mentally retarded must plan

constantly for groups and individuals. She will find it necessary to pay particular attention to *meaning*, *sequence*, and *method* in planning the child's daily number learnings.

The teacher should guide the child in understanding the meaning and relationship of number facts and skills from day to day and allow sufficient time for mastery of each step. She should guard against taking the child on to the next step before he is ready for it. Too often he is given new facts and skills to master without readiness for understanding them, and, as a result, does not learn them well enough to be confident and independent in his responses.

Teaching number concepts and skills at any stage before children are ready makes for unnecessary repetition and questionable mastery. The following are necessary steps for the child to experience:

1. Having readiness and motivation for learning the number concept, fact, or skill.
2. Taking ample time to observe and use the concept or fact in many different concrete situations.
3. Understanding the meaning of the number concept or fact when he hears it and expressing it orally and meaningfully.
4. Translating the meaning to the written symbol which stands for the concept or fact.
5. Associating the written symbol many times with the meaningful concept or fact that it stands for.
6. Using the written symbols many times to convey meaningful ideas and facts.
7. Having opportunity for sufficient meaningful oral and written repetition to gain confidence and independence in using number.

Learning Aids. The teacher of the mentally retarded must have an ample supply of concrete learning aids that the children can use. The following items suggest the scope of such learning aids.

Quantity: Counting discs, abacus, fact-finders, number frames, number charts, flannel board, number cutouts, domino cards, dominoes, dial telephone, fractional parts, money.

Time: Calendar, clock, metronome, watch.

Sizes: Ruler, yardstick, tape measure, speedometer, square-inch cards, foot cards, yard cards.

Weight: Balances, spring scales, grocers' scales, nurses' scales, boxes, containers, sand, fruit, beans.

Volume: Eight-ounce, pint, quart, and gallon measures; pans, bottles, spoons, and cups; quart, peck, and bushel measures; baskets and boxes.

Units of Measure. Quantity, amount, size, space, distance, time—what do these mean to mentally retarded children as they grow older? A child may glibly recite about pints, quarts, bushels, pounds, tons, feet, yards, miles, and so forth, and still have no known points of reference for these terms. Has he experienced these measures in concrete situations so that by constant association and comparison he knows what is represented by the facts he deals with? How high is the school building or the flagpole? Can the pupil look at other buildings and compare their height with that of the school building? Is the child's concept of twenty feet so clearly identified with the length of his schoolroom that he can think of a boat sixty feet long as three times as long as the schoolroom, or of a house forty feet long as twice the length of the room? What familiar place or building represents to him a space one hundred feet long—what playground or park or apartment house, for example? What is his concept of a mile? Has he walked a mile enough times so that it is a vivid experience to him? Has he paced it off? Has he measured the time it takes to walk it?

Concepts of units of measure cannot be applied readily by all mentally retarded children, but much can be accomplished in this direction with many if the development of these concepts is not made purely a matter of words or chance acquirement. If there were specific teaching toward the development of such concepts and their meaningful application, beginning with actual measurement of small quantities of material, and later, at nine or ten years mental age, extending to interpretation of experience with larger quantities, many mentally retarded children could gain satisfactory ability in interpreting the near-at-hand world of quantity, space, and distance.

Use of Arithmetic Tests. The teacher who has to meet the needs of the pupil eleven years or older who comes from the grades and has faulty number facts and habits will need an inventory and diagnostic plan of procedure. She can readily make such a plan covering basic number combinations in addition, subtraction, multiplication, and division. She will do well to break down the inventory into a series of tests, lest the child feel so discouraged by a large array of facts that he will inevitably fail.

Particularly helpful in the newer texts are the suggestions for short-timed tests that provide the teacher with checkups to show the need for review and to test the mastery of newly acquired facts and processes. Frequent evaluation and repetition of facts and skills in meaningful situations give the pupil skill and confidence in using number.

Standardized tests serve to compare the status of the slow-learning child with that of the average child and to indicate individual improvement over an interval of a year or more. The teacher, however, should be careful in her use of these tests; used too frequently, they may obscure the practical everyday applications of number, which are of the greatest importance in number work with the slow-learning.

The following tests are recommended for use in special classes. The individual situation and need will determine the selection.

<i>Grades</i>	<i>Arithmetic Tests</i>	<i>Publisher</i>
	Metropolitan Achievement Tests	World Book Co.
3-4	Elementary Arithmetic	
5-6	Intermediate Arithmetic	
	Stanford Arithmetic Tests	World Book Co.
2-3	Primary Arithmetic	
4-6	Elementary Arithmetic	
	Progressive Arithmetic Tests	California Test Bureau
1-3	Primary Arithmetic	
4-6	Elementary Arithmetic	

Principles and Practices. Emphasis has been placed on certain principles and practices that have proved helpful in teaching number to the slow-learning child. They are summarized for the teacher as follows:

1. Keep in mind the everyday use of number in the child's experience both in and out of school.
2. Acquaint yourself with the child's stage of understanding and use of number.
3. Keep in mind present and ultimate number goals for the child.
4. Provide an adequate supply of learning aids.
5. Follow an orderly organization and sequence of number concepts and skills in your teaching plan.
6. Keep meaning and use related to computation facts and skills.
7. Provide for meaningful repetition of number concepts, facts, and skills in many situations.
8. Have a plan for testing or evaluating the child's progress at stated intervals, including an inventory of his everyday use of number.
9. Pass on to the next teacher a complete report of the child's stage of number development.

Daily situations in which quantitative relationships are needed can be very baffling and frustrating to the retarded child. On the other hand, he can by a well-guided program acquire understanding and skills that will make him competent and confident in meeting daily situations where number is needed.

Questions and Suggestions for Study

1. List twenty real situations in school life where number functions.
2. Review quickly Chapter 11 and make a list of the number situations that are mentioned as occurring in the units described. Discuss their significance for teaching and for learning.
3. Make a list of materials the teacher and children might collect or make without cost that would aid in teaching number.
4. a) What would you say of a situation in which a group of children could add and subtract abstract fractions with two-figure denominators, but could not tell how much ribbon to buy if two pieces, $\frac{1}{2}$ yard and $1\frac{1}{4}$ yards in length, were needed?
b) What would you say of a situation in which a class was working on problems involving comparisons of distances of nearby towns from their home town, but did not know the approximate location of the mile point from their school?
5. Make a plan for teaching the tens; the hundreds.
6. Study the area of homemaking outlined in Chapter 18 and list situations calling for number skills.

Reading References

CLARK, JOHN R., and EADS, LAURA K. *Guiding Arithmetic Learning*. Yonkers, N.Y.: World Book Co., 1954.

A basic reference on methods, well illustrated, and with a detailed index.

CRUICKSHANK, WILLIAM. "Arithmetic Ability of Mentally Retarded Children: I, Ability to Differentiate Extraneous Materials From Needed Arithmetical Facts; II, Understanding Arithmetic Processes," *Journal of Educational Research*, 42 (Nov., Dec., 1958), 161-70, 279-88.

This study was carried out with an experimental group of educable retarded children and youth and a control group of normal children.

DE MAY, AMY J. *Guiding Beginners in Arithmetic*. Evanston, Ill.: Row, Peterson & Co., 1957, pp. 5-163.

Gives a detailed exposition for teaching the basic number concepts and skills. It will aid in extending learning experiences for slower pupils.

ENGLE, T. L., and HAMLETT, IONA C. "Comparison of Mental Defectives and Normal Children in Ability to Handle Clock and Calendar Situation," *American Journal of Mental Deficiency*, 58 (Apr., 1954), 655-58.

A study that demonstrates that mentally retarded adults have abilities in clock and calendar situations about one and a half years beyond their mental age level.

MORTON, ROBERT LEE. *Teaching Children Arithmetic*. Morristown, N.J.: Silver Burdett Co., 1953, pp. 1-12, 393-408, 481-505.

Discusses the teacher's function, common measures, and problem-solving.

Basic Arithmetic Series *

* The teacher is advised to secure the publishers' catalogue for listing of textbooks, teachers' manuals, and other teaching aids.

Exploring Arithmetic. (Spitzer and Norman.) St. Louis, Mo.: Webster Publishing Co.

A readiness program throughout grade levels. Minimum reading vocabulary for grade one. There are few details in pictures, to eliminate confusion.

Growth in Arithmetic Series. (Clark, Junge, Moser, and Smith.) Yonkers, N.Y.: World Book Co.

Provides for three levels of ability. Provides manipulative experiences for developing basic number concepts and supplementary

exercises for slower learners, extending the period with concrete and visual aids. Materials and experiences are varied.

Making Sure of Arithmetic. (Morton and Gray.) New York: Silver Burdett Co.

Light vocabulary load. Manuals contain helpful games and suggestions.

The New Winston Arithmetics. (Brueckner, Merton, and Grossnickle.) New York: Holt, Rinehart and Winston, Inc.

A good readiness book, provides much practice in controlled and positional counting and in recognition of number names and groups, and a developmental program with manipulative and visual aids for introducing new concepts.

Selected Workbooks (without basic texts)

Arithmetic Foundation Series. San Francisco: Harr Wagner Publishing Co.

Essential Drill and Practice in Arithmetic. (Lennis and Traver.) River Forest, Ill.: Laidlaw Bros.

Let's Count. Yonkers, N.Y.: World Book Co.

Meaningful Arithmetic Workbook Series. (Burger.) New York: Noble and Noble, Inc.

The Modern Mastery Skills in Arithmetic. Fowler, Ind.: Benton Review Publishing Co.

Help Yourself Activity Books: Count, Color, Play; Beginning Arithmetic; The Big Help Yourself Book. Racine, Wis.: Whitman Publishing Co.

Arithmetic Aids

Items listed suggest kinds of aids available from supply houses. (See page 249 for location of supply houses.)

Creative Playthings, Inc.:

Sequence Board
Additive Board
Dominoes
Match Mates

Milton Bradley Co.:

Counting Discs
Fraction Discs
Tick Tock Primary Clock
Day-by-Day Calendar

Ideal School Supply Company:

Number Readiness Posters
Counting Bar and Frame
Folding Perception Cards
Number Grouping Frame
Modern Computing Abacus
Fraction Wheel
Relationship Cards
Toy Money (Metal Coins)

The Secondary-School Program

The comprehensive or general high school attended by all pupils of secondary-school age is unique to America. During the twentieth century, repeated surveillance and reorganization has characterized its development. The degree of rapid change in technology in science and in international developments has focused attention on the secondary-school curriculum. Some of the concern for improvement is related to the inadequacy of educational programs for the lower segment of the high-school population. Since mid-century, the movement to provide a more satisfactory program for high-school dropouts made up of disinterested, able students and of dull-normal or slow learners has been under way.

At the conference called by the Vocational Division of the United States Office of Education in 1945, vocational leaders faced the statistics of dropouts from high school, unemployed youth, and the increase in semiskilled jobs over technical and skilled jobs. These data presented many problems related to education for life needed by the larger group of youth not appropriately served by preparation for college or by training for a specific vocation. It was estimated that the secondary school of the future could be expected to train 20 per cent of its youth for entrance into desirable skilled occupations and 20 per cent of its students for entrance to college. For the remaining 60 per cent, a comparable program of life adjustment training was needed.

Following this pronouncement, regional conferences were called. The consensus of those participating in the regional conferences was, in part, that

1. Secondary education today is failing to provide adequately and properly for the life adjustment of perhaps a major fraction of the persons of secondary school age.
2. Public opinion can be created to support the movement to provide appropriate life adjustment education for these youth.
3. The solution is to be found in the provision of educational experiences based on the diverse individual needs of youth of secondary school age. . . .
5. Local resources must be utilized in every community to a degree as yet achieved only in a few places.
6. Functional experiences in the areas of practical arts, home and family life, health and physical fitness, and civic competence are basic in any program designed to meet the needs of youth today.
7. A supervised program of work experience is a "must" for the youth with whom the Resolution is concerned. . . .¹

The above conclusions are stated here because of their significance in connection with the education of the slow-learning adolescent. Previous to 1946, a movement to recognize the right of the mentally retarded child to secondary-school attendance in a program suited to his abilities had begun. (Los Angeles, Calif., Newark, N.J., and Rochester, N.Y., were among the cities which had instituted a secondary-school program.) But the traditional high-school program of subjects and departmentalization was not conducive to the assimilation of a group whose potentialities called for a functional program of life activities. The majority of high schools provided for the individual differences apparent in the dull-normal only to the extent of watering down the subject areas and supplying courses in industrial arts and home economics. High schools generally have tended to cling to the traditional academic pattern despite the changing nature of pupil population. Hence the significance of

¹ Federal Security Agency, Office of Education, *Life Adjustment for Every Youth* (Washington, D.C.: Government Printing Office, n.d.).

a movement that stated that our high-school adolescents have "diverse individual needs," that the needs of the majority of these pupils are not met, that "functional experiences in areas of practical arts, home and family life, health and physical fitness and civic competence are basic," and that "a supervised program of work experience is a 'must'!" If these conclusions are accepted and acted on by school systems, high schools will be able to offer programs that have long been recognized as essential to the education of the mentally retarded.

The Commission on Life Adjustment Education for Youth described life adjustment education in the following statements. These statements, it should be noted, coincide with the principles and objectives for the retarded discussed in Chapters 4, 5, and 6.

It is concerned with ethical and moral living and with physical, mental and emotional health.

It recognizes the importance of fundamental skills since citizens in a democracy must be able to compute, to read, to write, to listen, and to speak effectively. It emphasizes skills as tools for further achievements.

It is concerned with the development of wholesome recreational interests of both an individual and social nature

It is concerned with the present problems of youth as well as with their preparation for future living.

It is for all American youth and offers them learning experiences appropriate to their capacities.

It recognizes the importance of personal satisfactions and achievement for each individual within the limits of his abilities.

It respects the dignity of work and recognizes the educational values of responsible work experience in the life of the community. . . .

It emphasizes deferred as well as immediate values. For each individual it keeps an open road and stimulates the maximum achievement of which he is capable. . . .

It is education fashioned to achieve desired outcomes in terms of character and behavior. It is not education which follows convention for its own sake or holds any aspect of the school as an end in itself rather than a means to an end.

Above all, it recognizes the inherent dignity of the human personality.²

As state and local departments of education study and build high-school programs to meet these conditions, special education

² *Ibid.*, pp. 4-5.

consultants and teachers will find more understanding and acceptance of the retarded pupil in the secondary school.

Two statements from the above quotation are especially noteworthy: "It is for *all American youth* and offers them *learning experiences appropriate to their capacities*," and "above all, it recognizes *the inherent dignity of the human personality*." The elementary school for many years has recognized the potential educability of mentally retarded pupils and accepted them as personalities. Many high schools have moved to accept the challenge.

Features of the Program

If the mentally retarded are to be accepted and provided for as part of the total high-school population in the community, what kind of a program should the school offer? Communities differ in size, in economic structure, in recreational and vocational opportunities, and in the extent of civic activities—secondary schools differ in size, in personnel, in goals, and in the number and kinds of subject offerings and extracurricular activities. Whatever the make-up of the community or of the school, however, there are certain features which are essential to the success of a secondary-school program for the mentally retarded. These features may be summarized as follows:

1. The administrator should understand the pupils and accept the pupils and classes wholeheartedly as integral parts of his school organization. The program will not develop as it should if he has doubts or reservations about the potential success of these pupils in the high school or is unwilling to aid the special education teacher in making necessary plans for an adequate program.

2. The administrator should be ready to exercise leadership in interpreting the purpose of the special education program and in furthering its function within his school and community.

3. The administrator of the high school should work in close cooperation with the special education consultant—local, county, or state—in developing and furthering the program.

4. The special education classroom, like other classrooms,

should have a *desirable location in the building* and the pupils should have equal access to all the facilities of the school—the gym, showers, shops, library, lunchroom, and so on.

5. The special class must function as a participating unit in the school. The class and its members should take part in drives such as those for safety and the Red Cross, in assembly programs, student government, school sports; they should be on school committees, belong to hobby clubs, and so on.

6. Slow-learning pupils should be under the teaching supervision of a special education teacher for a half of their school day or longer. They need understanding and guidance from a teacher trained in special education.

7. Care should be exercised constantly that the method of assigning pupils to the class is based on psychologically sound diagnosis. The purpose of the class can be defeated if children with serious behavior problems or other misfits are assigned to it.

8. The pattern of organization must be similar to the general pattern of the school in order to give the pupils group status with their peers. Whatever the designation of the entering group of average pupils (seventh, eighth, or ninth grade, depending on school organization), the same designation should be given to the special education class that enters each year from the elementary schools. In each succeeding year the special-class pupils should have a designation that parallels that for other pupils. Their time schedule for class periods, lunch, gym, and so on, should follow the regular school schedule.

9. Slow-learning pupils, like others, need to have recognition for their work. The regular school report form to parents can generally be used with *explanatory notes or a supplement* if needed. The regular form is preferable to any specially devised report. Also there should be some form of recognition for years of high-school attendance and for completion of satisfactory work. (In place of a high-school diploma some school systems use a certificate which states the years completed and the type of curriculum.) There is need to be realistic concerning different kinds of programs that may be represented by the high-school diploma.

10. The curriculum should have definite functional goals and offer a definite sequence of learning experiences over a two-, three-, or four-year period, depending on the organization of the school and the ages of the pupils. Teachers, pupils, parents, and the public should recognize that each succeeding year in school provides sequence and progress for these pupils, just as for any child.

11. The curriculum should include a supervised program of work experience. These pupils need work try-outs in order to understand the demands of a job, and to test and evaluate their employment assets. The special education teacher or vocational counselor in turn needs to supervise a work try-out program in order to better understand, evaluate, and treat the occupational strengths and weaknesses of his students.

12. The program should be given a status similar to other curricula, that is, named "occupational education," "school-work education," or any other term which designates it, just as "vocational education" or "business education" define a particular program.

13. Finally, the majority of the administrative, guidance, and teaching personnel should understand and accept these pupils as adolescents with problems and needs common to all adolescents. *There is sometimes the tendency to emphasize differences and discriminate against the mentally retarded pupil who asserts his independence of certain school routines.* Because of differences in the backgrounds and training of teachers, there may be some traditionalists who cannot tolerate any child who is not an academic success. If the administrator and the majority of the school staff understand and accept these pupils when the class is first organized, there will be a growing leaven of understanding to support the venture. Both teacher and pupils must feel accepted and secure in the entire school organization.

The secondary-school program calls for very careful study and planning. Administrators and staff will be concerned with selection of pupils, *understanding and acceptance of the program* by parents and pupils, and the integration of the program as a unit in the total secondary-school curriculum.

Readiness for High-School Entrance

When are pupils ready for secondary-school placement? Some school systems have a 6-3-3 organization, others an 8-4, others a 6-6. It is generally agreed that a chronological age of thirteen or fourteen years is a desirable age for promotion from a six-grade elementary school, or fifteen years for promotion from an eight-grade elementary school. Retarded pupils generally will benefit by a year's experience beyond the average age for secondary-school entrance. But chronological age is only one item. The pupil's physical, social, emotional, and educational readiness must also be considered. To promote pupils who are physically and socially immature or incompetent in educational skills is not only detrimental to the individual child but to the entire program.

The following is a list of the attainments or abilities agreed upon as requirements for transfer to high school by a group of special education teachers who prepare mentally retarded girls to enter a high-school program. These attainments may not all be reached in their entirety, but they do represent goals for health, conduct, and social and educational skills which serve as acceptable standards for high-school entrance. Such a list can readily be stated to apply to classes made up of both boys and girls.

Ability to meet standards of health and hygiene.

1. Has followed through all medical recommendations.
2. Has had eyes checked and wears glasses if they are needed.
3. Has had dental work completed to date.
4. Uses make-up moderately.
5. Wears appropriate clothes to school.
6. Bathes regularly; keeps hair washed and attractively arranged.
7. Keeps clothes clean and mended.
8. Observes to a satisfactory degree health and safety rules.

Ability to care for one's self in large group.

1. Has knowledge of the high-school environment and some of the responsibilities she must assume.

2. Conducts herself with poise and dignity on the street and in public places.
3. Has a wholesome relationship with the opposite sex.
4. Knows and observes common rules of courtesy in speaking and working with others. Speaks in a well-modulated, clear, pleasant voice.
5. Is trustworthy and punctual.

Ability to work independently in a new group.

1. Is prompt in following directions and meeting responsibilities.
2. Follows simple directions for study with minimum personal supervision.
3. Arranges written work neatly without personal supervision.
4. Has developed powers of voluntary attention and concentration.
5. Can be depended on to plan satisfactory use of free time.

Ability to follow through a task until it is finished.

Takes good care of equipment, tools, and materials.

Educational skills

1. *Reading.* Has, as a minimum, fourth-grade ability or potential fourth-grade ability. Ability to read with comprehension, i.e., to read and reread for the purpose of (a) recalling the gist of the paragraph or paragraphs, and (b) outlining the gist of the paragraph or paragraphs.
2. *Dictionaries.* Ability to use a glossary and the dictionary.
3. *Map-Reading.* Familiarity with different maps—city, county, state, automobile, and so forth. The ability in reading maps to recognize certain fundamentals, such as direction, location, and chief symbols.
4. *Number.* A minimum of fundamental number facts, i.e., products and factors including division facts. Reading of numbers up to 10,000 in practical situations. Computation with measures and money.

The elementary school has gone farther than the secondary school in adapting to the diverse needs and abilities of the pupil population. In Chapter 7, emphasis was given to the advantages of discovering the slow-learning child during the early primary years and making constructive provision for his slower growth.

The elementary school that accepts this responsibility has a plan of special education which fosters the development of the potential assets of the mentally retarded child. The child is given an opportunity to acquire the knowledge, attitudes, and skills that give him self-confidence and a sense of his own worth. He *learns to recognize his abilities and his limitations*. Parents and children benefit by counseling and guidance concerning the educational goals of social and occupational sufficiency. A pupil with such an elementary-school background is usually ready to enter the secondary school with a good chance for success.

There is a marked contrast between the pupil who has had a happy and successful elementary-school experience and the pupil who has sat as an "isolate" and "failure" in the grades until he was fourteen or fifteen years old. The latter is likely to be a *nonreader or generally lacking in the fundamental skills*, to be emotionally disturbed and unable to adjust in a normal way to much of the secondary-school routine. Thus, valuable opportunity in the elementary years has been lost to him, and the secondary-school administrator and teachers find it difficult to assimilate him since he is, by then, a serious misfit. As more elementary schools assume responsibility for recognizing the retarded and capitalize on the growth potentialities of such children during their early years, there should be, accordingly, more secondary-school administrators ready and able to provide suitable programs for the mentally retarded adolescent.

Goals of the Secondary-School Curriculum

The objectives of the special education program stated in Chapter 6 embody long-range goals for the development of social and occupational efficiency. The studies reported in Chapter 5 of the mentally retarded after they have finished school suggest the potentialities of the slow-learning pupil of secondary-school age for meeting life tasks if properly educated and guided. The more immediate goals of the secondary-school program for the mentally retarded may be stated in different ways. In brief, the pupil should be guided to

1. Become socially integrated in the high-school setup and accepted as a participating group member by teachers and by peers,
2. Meet the various personal-social problems arising in school and home and to adjust to the opposite sex,
3. Meet problems of health and those arising from the changes in a maturing body,
4. Understand and participate in the duties and responsibilities of family life,
5. Understand and appreciate community responsibilities,
6. Acquire knowledge of local occupational opportunities in various low-skilled and unskilled jobs,
7. Acquire satisfactory habits, skills, and attitudes needed for occupational adjustment,
8. Improve his occupational assets in a series of job tryouts, and
9. Grow in social maturity and participate in worthy recreation with his peers.

These goals of the secondary-school curriculum are real and vital to the adolescent who feels an urge for growing independence and for identification with his peers. What is his present role? What of his future roles as a family man, worker, consumer, and taxpayer? The demands of the adult world and the concerns of the adolescent must be brought into interactive relationship. The curriculum should provide actual situations that challenge youth to clarify his concepts of adult life and its responsibilities and to develop social attitudes and good work habits.

Contents of Units

Units at this level should be organized in life areas in which the boys and girls need to develop understanding, self-confidence, and satisfactory performance. These life areas should embrace:

1. Homemaking and family life.
2. Recreational pursuits.
3. Occupations.
4. *Physical and mental health.*
5. Community life.

It is advantageous to plan the curriculum with a two- or three-year sequence so that goals and learnings may be purposeful and cumulative. These pupils, like others, need to experience an opportunity for progress in the work that they undertake each year.

Pages 346-347 contain brief outlines of unit content related to the life areas of homemaking and family life, and occupations, and suggest a three-year sequence. The discussions in Chapters 6 and 10 will furnish the administrator and teacher with additional suggestions for unit content in other life areas within which similar three-year sequences can be planned. Each community and each school has its own peculiar needs and resources on the basis of which the school's particular curriculum should be developed.

The life areas are merely suggested as guides to planning. As the curriculum develops in the classroom, for example, there will be *no line of demarcation between homemaking and health. Personal grooming offers a channel for improving one's status with one's peers and with adults.* As certain pupils face the problems of the family, moreover, clarification of concepts and relationships will aid in resolving feelings of frustration and hostility.

While the unit criteria outlined earlier (see Chapter 12) apply also to units at the secondary level, emphasis is given at these ages to (1) pupil discussion and formulation of problems, (2) specific information and skills which have a bearing on personal and group needs, and (3) *organization and integration of learning experiences which relate the pupil to adult life and foster growing independence and responsibility.* During high school, there are likely to be more unforeseen problems in life situations concerning both the individual and the group than there are in the elementary-school years. The teacher must constantly be alert to problems as they arise. Basic skills in the language arts and number should not be neglected, since these pupils continue to profit from instruction in fundamental English, reading, and number skills.

The pattern of class organization, teacher assignments, time schedule, teacher-pupil ratios, and the scope of activities in the high-school program will be somewhat dependent on the general

HOMEMAKING AND FAMILY LIFE

FIRST YEAR—AGE 14 OR 15 YEARS

Personal Grooming. Care of person and clothing; appropriate clothes for school and other occasions (appropriate make-up for girls); making appropriate garments.*

Family Life and Relationships Within the Home. The roles of family members and accepting certain responsibilities; the fundamental values in family relationships; consideration for older members; the financial aspect of providing material necessities such as food, clothing, and shelter; the need for sharing, care of younger brothers and sisters; dating in accordance with family regulations.

Foods. Nutrition—balanced diets, diets for the overweight and underweight; shopping for foods, preparing family meals, setting the table, and serving; food preservation; packing lunches for school.*

* These needs are current from year to year.

SECOND YEAR—AGE 15 OR 16 YEARS

Personal Grooming. Laundering and dry cleaning different kinds of fabrics; pressing; storing clothes for the summer; consumer values.

Family Life and Relationships. Child care; home care of the sick; recreation. *Home Maintenance.* Cleaning the home; simple home repairs and improvements; the work of the plumber, carpenter, electrician, and decorator; furnishing the home—selecting furniture and making small furniture and curtains; heating the home—different kinds of fuel and their costs.

Foods. Preparation of family meals—menu planning, family shopping with regard to food values, food budgeting, entertaining guests at meals.

THIRD YEAR—AGE 16 OR 17 YEARS

Personal Grooming. How to dress for different kinds of jobs and for various social occasions.

Family Life and Relationships. Personal budgeting and saving; paying one's share toward family expense; choosing a mate and parenthood.

Home Maintenance. Continuation of second year.

Foods. Preparation of teas and luncheons; the role of the host or hostess.

OCCUPATIONS

FIRST YEAR—AGE 14 OR 15 YEARS

The Worker. Service jobs and industry jobs; inventory of jobs in neighborhood; inventory of parents' jobs; personal assets of the successful worker; analysis of skills for jobs. Training in basic household tasks and training in the use of tools and to carry out tasks in industrial arts and other shops.*

SECOND YEAR—AGE 15 OR 16 YEARS

Job Areas. Kind and location of local industries; kind and extent of service jobs; visits to industries and services; jobs for beginners—skills and personal assets needed.

Employment. Hours and wages; wage deductions; labor unions; social security; state employment service; applying for a job—application forms, work permit; keeping a job. Training in common skills needed for work in restaurant, home, store, and so forth, and training in handskills with tools and machines in school shops.* In-school employment in library, gym, cafeteria, nursery schools, and so forth; after-school employment in neighborhood jobs.

THIRD YEAR—AGE 16 OR 17 YEARS

Job Tryout. Four- to six-week periods of half-time or full-time employment; evaluation by employer. Alternate four- to six-week periods of full-time school attendance; evaluation of job assets; choice of jobs; adjusting to the job and to the employer; safety rules; guarding against accidents; training to improve job skills.

Budgeting. Banking and saving, making payments; insurance.

Financial Hazards. High-powered salesmanship; installment buying; loaning rackets.

* School can train in attitudes and common skills but provision for specific job training, as such, is limited.

school organization. Class units made up of both boys and girls are frequently organized. Some school systems, however, find certain advantages in separate units for each, with opportunity for heterosexual group activities.

Procedures for Class Organization and Schedule

While the particular procedures as to selection, class organization, scheduling, and program vary from school system to school system, the essential features stated earlier should be basic in any plan. The suggested steps discussed here embody these basic features and are applicable to organization in a junior or senior high school.

Prestudy, Assessment, and Selection. Potential candidates from elementary special classes are considered in the spring of the year by the elementary principal and special education teacher. They are reviewed on the basis of health status, I.Q., achievement test results, and ratings in social and work habits, combined with teachers' and the principal's judgment of abilities and readiness. Referral for psychological study is made if needed. This review is followed by a conference of the special education director or coordinator, principal, special teacher, and psychologist and/or visiting school counselor, for final review and recommendation for placement.

The records of retarded grade pupils who will enter from outside the system are reviewed by the secondary-school teacher and psychologist. The records of the occasional borderline pupil who has failed in his first year of high school are also reviewed. Referral is made to the psychologist of selected cases for individual study and recommendation for placement.

Final approval of recommendations for placement are made by the high-school principal and coordinator of special education.

Parent and Pupil Approval. Parents and pupils are counseled by the special education teacher or a designated staff member on promotion and purpose of the secondary-school program. Throughout the year, however, parents and special-class pupils have been counseled on readiness for the social and occupational goals of the secondary school. Home visits by the special edu-

cator afford continuing opportunity for counseling. Some school systems have attractive announcements that pupils can take to parents giving pertinent information in a concise and convincing way. Sometimes announcements are set up to be informative to citizens as well as parents. Parent approval and cooperation for transfer are enlisted before assignment to a high-school class.

Orientation and Assignment. Recognizing the problems of orientation in a secondary school, a visit of prospective candidates may be arranged in the spring of the year for the purpose of a beginning acquaintance with building and program. An evening preregistration visit in the fall, to which both parents and pupils are invited, may serve a similar purpose.

Pupils are entered as first-year students and are given the classification that all entering students receive, that is, seventh for a junior high school in a 6-3-3 organization, or ninth or freshman for senior high school in an 8-4-4 organization. The age of entrance for seventh grade is generally 13 years; for ninth year, 15 or 16 years. Each year, having completed the work, they advance in classification. By these same classifications pupils are eligible to take part in the activities of their class grouping.

The number to be enrolled in any class generally depends on state regulations as to size and program. Enrollments average from 15 to 24.

Schedules and Program. Scheduling the program is a very important part of the procedure. In planning for the particular curriculum needs of these pupils much depends on the secondary-school organization, the general curricula offered, and the scheduling practices. In the larger school systems that have comprehensive high schools with a certain amount of differentiation for the below-average group, the task is generally less difficult.

In the larger school systems, the pupils are assigned to the regular homerooms; in others, to the special education teacher and classroom for the homeroom base. One plan of scheduling provides for (1) a half day with the special education teacher on study of life areas, including occupational information and the fundamental skills of communication and number, (2) the other half day in the regular classes such as health and physical educa-

TABLE II

WEEKLY SCHEDULE—SMALL-SCHOOL SYSTEM

(For a senior high school class of 19 pupils made up of 11 ninth-grade and 8 tenth-grade pupils, I.Q.'s 60 to 80, and taught by a special education teacher. The pupils enter at 15 years of age; the curriculum has a two-year sequence.)

Period	Monday	Tuesday	Wednesday	Thursday	Friday
1.	<i>Homeroom period with special education teacher. (Routines, problems of health, personal well-being, etc.)</i> <i>English:</i> Language arts with attention to individual achievement in skills.				
2.	<i>Mathematics:</i> Applied to home economics, industrial arts, and occupational education.			<i>Physical Education:</i> 9th grade 10th grade	<i>Physical Education:</i> 9th grade 10th grade
3.	<i>American Citizenship:</i> Includes at planned intervals the life areas of home-making, recreation, community citizenship, including health.			<i>Music:</i> 9th grade <i>Social Guidance</i> 10th grade	<i>School Assembly</i>
Noon					
4.	Occupational Education Introductory 9th year Service jobs in school 10th year (individually arranged)				Occupational Guidance 10th year School Library 9th year
5.	<i>Home Economics (Girls):</i> attend as a class group under a regular home economics instructor. <i>Industrial Arts (Boys):</i> attend as a class group under a regular industrial arts instructor.				
6.	<i>Woodworking, Sheet Metalworking, Art, Music, or Typing</i> to be elected from courses scheduled for regular students.				
After School					
	Part-time employment on individual basis 10th year		<i>School Clubs</i> chosen on basis of interest and abilities.		Part-time employment on individual basis 10th year

tion, homemaking, shops, music, art, or personal typing. In some systems, the special-class group is assigned as a group to the special-subject teachers.

Whatever the school organization, the program with functional goals leading to social and occupational adequacy should provide occupational guidance and school work experience in the students' final year. Some school systems arrange for half-day work experience, others for a block of full-time employment alternating with a block of full-time school attendance.

Small school systems call for ingenuity and a devoted special education teacher who is willing to give time to developing a program. The smaller school systems are greater in number, have fewer services available, and have the greater need for being informed on possibilities. A schedule which might be worked out in a small school system is therefore outlined in Table 11. This schedule, when preceded by the previously mentioned steps, embodies the features of an adequate program at the secondary level.

There are pupils with a 50 to 60 I.Q. who have marginal abilities for secondary-school placement, and others who are too limited to be given a trial in the type of programs described. Some school systems counsel with parents and excuse the pupil

Note: The special education teacher instructs these students for the major part of the day. When both ninth and tenth graders are present in the classroom, the period can be divided between group and individual needs, including supervised study. There are two periods when the ninth-year students are scheduled out and the special education teacher has the opportunity of giving full time to the social and occupational needs of the tenth-year students. The special education teacher has two morning periods free and ten afternoon periods free for coordinating the work with the regular teachers and for community visits to establish relationships with employers and arrange for part-time employment. He must be ready, too, as the need arises, to visit the pupil on the job after school. In some instances, this part-time employment might be arranged for the individual pupil during the school day in his fourth semester. Arrangements for class trips to community agencies, industries, and so on, may be made at the discretion of the special education teacher.

Some school systems may prefer to assign the pupils to the regular home-rooms for ninth- and tenth-year students, thereby assuring greater identification with the regular schedules. Schedules may be varied in several ways to provide optimum programs. Much of the scheduling and the success of the program depends on administrative leadership, teacher competencies, and staff coordination.

from secondary-school attendance. Other school systems with larger numbers provide a terminal class in an elementary school or in the secondary school under the full-time instruction of a special education teacher. The program is related very specifically to the pupils' personal-social needs and home responsibilities and to skills, habits, and attitudes for routine work under supervision.

Description of a High School Program

The following description of a program in a general high school in a city school system illustrates how organization, schedule, and curriculum may be developed to bring out desirable goals for the group and individual. Table 7 (page 111) depicts the pupil make-up in a class unit of 50 retarded girls.

This class unit provides a three-year program culminating in a work-tryout plan in the ninth year. This program is developed in keeping with the total school setting. The retarded girls prefer a schedule that offers them period assignments such as other pupils have. The administrator and teachers find advantages in such a schedule since it permits better integration of the pupils in the life of the school. The time schedule, however, is flexible. Blocks of time devoted to unit enterprises such as trips, use of resources, visitors, audio-visual aids, preparation for class or school events, and so on, can be extended.

Two qualified special education teachers are responsible for planning the program and curricular units in cooperation with the special-subject teachers of home economics, tailoring, power machine work, art, music, and gym. Both teachers act as counselors, homeroom teachers, and classroom teachers for the girls assigned to them. One teacher acts as occupational coordinator and devotes a certain amount of time each week to locating jobs for ninth-year pupils, holding conferences with parents and pupils, interviewing employers, and following pupils at work on the job.

Home visits are made to all girls entering high school for the first time in September of each year and to all those returning who have special problems. General features, that is, book rental,

attendance, school lunch program, library privileges, and the purposes of program for the student are discussed and explained to the girl and her parents. There is an opportunity for the teacher to know the home and for all concerned to build mutual confidence and cooperation. Visits to the home are continued, also, through the year, as the need dictates. During the spring semester, all homes of the eighth-year girls are visited by the teacher to discuss the special placement of the girls in school or their occupational futures.

Becoming acquainted with a high school and the people in it, with its regulations and privileges, is the first, all-important phase in the entering pupil's experience. These girls participate in all school activities that other entering groups take part in. They are represented in the school government council, elect a banking representative, and follow through on such school drives as those for the Red Cross, the March of Dimes, and food and clothing collections. They join many of the afterschool clubs, particularly the library club and the swimming group, attend school dances (most frequently those designed for seventh-, eighth-, and ninth-grade levels), attend all junior assemblies and sometimes senior assemblies, and take part in some assembly activities. The girl who shows marked poise and good speech can try for a part in the seventh- and eighth-year plays.

Participation in these experiences affords each girl opportunities to evaluate her assets and her limitations and to develop social attitudes and habits that make her a contributor in the social group. These experiences give status to the special-class group and to its individual members in the school, although it is recognized that this program differs from the usual curriculum and does not lead to a regular high-school graduation.

The following are brief descriptive statements on a unit in *occupational guidance* for the eighth-year girls.

Some of the activities in occupational studies and in oral and written English are listing and discussing kinds of industries in which parents are engaged, making reports on local, world-renowned industries, discovering the variety of local industries, charting jobs for beginners on the basis of the knowledge and skills required, finding out about service jobs, reporting on

library references, discussing the personal assets of the successful worker, planning visits to industries, compiling an occupational manual to include a listing of occupations in the city's industries, reporting on occupational visits, and writing sample application forms, letters, time cards, and so on.

Activities in mathematics comprise discussing knowledge and skills required in different occupations, calculating the rate of pay by the hour, day, and week, studying workers' time sheets, becoming familiar with the work of the timekeeper and the bookkeeper, estimating deductions for income tax, social security, and other obligations, making out budgets that cover all living items and savings at various pay rates, computing interest on yearly savings.

A significant phase of the guidance unit comprises eight occupational visits made during the eighth year. Visits are made to several industries, a hospital, a laundry, a retail store, and a cafeteria or a restaurant. Choice of industries is dependent on girls' interests and abilities and current job outlets.

Fig. 7 shows a form for a visit to an industry. This form is prepared in class and taken with the students on their visits.

Visit procedures are as follows: The group and teacher are met by the personnel manager, who gives a general description of the plant, various departments of production, number employed, advantages of employment, and special characteristics demanded of those employed. Opportunity is given for questions to be asked by the girls. The introductory talk is followed by a visit to certain departments where the work in progress is explained in greater detail as the girls observe the workers on the job. Printed material available in each plant is given to the girls, together with various forms that must be filled out when seeking employment or while on the job.

The ninth-year program culminates in the opportunity for each girl to work at a real job for wages as part of her required course. Girls are scheduled for alternate full-time, four-week periods on a job and at school. Jobs are available in the industries and other places visited by the girls during their eighth year or in similar places. Employers of a selected group of industries and services have agreed to a cooperative plan of job try-

OCCUPATIONAL VISITS

Date

Name of industry

Location

Type of production

Personnel manager interviewed

Number of persons employed

A. Specific information about occupations observed:

1. Operations performed.
2. General attitude and habits of workers.
3. Working conditions.

B. Questions asked of the personnel manager in an interview:

1. What kinds of jobs do beginners usually get?
2. What personal assets do you believe necessary for success?
3. What can we do in high school to prepare for a job?
4. What are the minimum and maximum wages? What are the opportunities for advancement?
5. Is part-time work available now?
6. How may we apply for a job?

C. Personal evaluation in relation to the jobs available in occupations visited:

1. Are my personal traits acceptable? If not, how can I make them acceptable?
2. Am I interested in this kind of work?
3. What previous work have I done or what have I studied that will help me on a job of this kind? How may I prepare for it?
4. Are there any health precautions to be taken on this job?
5. What is the future for me in this occupation?

D. Application blanks, booklets of information on the industry, time cards, any available printed material. (To be collected on visit.)

Fig. 7. Form for Occupational Visit.

outs. Certain industries can use extra help at certain periods. For instance, the canning industry will take on girls for the fall months. Stores and manufacturers of Christmas products will employ extra help in December. The girl receives the minimum wage required by state labor laws. Each employer cooperates in making a personal appraisal of the girl on the form shown in Fig. 8.

PERSONAL APPRAISAL ON JOB PLACEMENT

Name Date
 Last First Middle
 Industry or Assignment Job Title

Will you please complete this blank for the person whose name appears above. Comments are most helpful. Use back of sheet for additional statements. Opportunity has been given to check on a four-point scale.

Area of Traits

Superior Good Fair Poor

1. Personal Appearance:
Grooming, suitable clothing.
2. Personal hygiene.
3. Application to responsibilities:
On time and daily attendance.
Sticks to job independently.
4. Concern for other individuals:
Consideration, respect, and goodwill when working with others.
5. Willingness to accept and use constructive suggestions and criticisms.
6. Emotional self-control:
Calm, level headed, cheerful, enthusiastic, responsive.
7. Dexterity on the job:
Speed, systematic application, accuracy.
8. Evaluation as a prospective employee.

9. Comments in support of your appraisals.

Signed

Fig. 8. Form for Appraisal on Job Placement.

The job appraisal is reviewed with the girl after her return to school. *It aids her in evaluating her assets and limitations and stimulates her to improve.* Valuable outcomes are derived also from group discussions on job demands, wage scales, employer-employee relationships, employee-employer relationships, budgeting of earnings, and suitability of the job to individual ability and temperament. The girls meet realities in occupational life with the benefit of expert guidance toward greater occupational efficiency.

Each girl has a maximum of four tryouts. In some instances, *girls succeed and enjoy the tryout job so well that permanent employment results.* By the end of the school year, the girls who have not transferred to full-time employment are ready for it. Additional time for the staff to carry on adequate follow-up for a period of a year or longer would be valuable. The social and occupational adjustment of the pupil can be more satisfactorily evaluated by examining her record during a period of employment when she is completely on her own.

This discussion of the needs and nature of high-school programs for mentally retarded adolescents is necessarily brief and limited in detail. It indicates, however, the movement that is under way to give these pupils *their rightful educational opportunity.* As time goes on, more schools will institute programs, experiment, reorganize, and refine goals and procedures. Research to point the way is much needed.

Secondary-school administrators and teachers are facing also the problem of the borderline and dull-normal child. High school programs for the retarded described in this chapter can readily be adapted and tried out with the larger group of slow-learning pupils. The next chapter discusses vocational rehabilitation services and suggests that study and experimentation in the area of rehabilitation will greatly aid the public school in defining its goals and program at the secondary level.

Questions and Suggestions for Study

1. Study the traits of adolescents outlined in Chapter 3 as a basis for planning a high-school program.
2. List three reasons why the high-school administrator may hesitate

- to accept a group of mentally retarded pupils in his school organization.
3. What steps may be taken to remove the impediments listed in answer to Question 2?
 4. Outline a three-year sequence in the life areas of physical and mental health, recreation, and community living.
 5. Discuss the working relationships of the general school counselor and the special education teacher.
 6. List five ways that a special education class can be integrated in the general school program.
 7. Plan a weekly schedule for a program for retarded pupils (60 to 80 I.Q.) in your local high school.
 8. Read carefully the references and annotations listed below. Select those that will help (a) the administrator to increase his understanding of pupil characteristics and the type of program, (b) the teacher to outline academic and work habits needed on the job, and (c) the vocational counselor to learn about school work-programs and problems related to part-time employment.

Reading References

- BROWN, FREDERICK W. "A Psycho-Therapeutically-Oriented Coeducational Program for Mentally Retarded Adolescents in a Comprehensive High School," *Mental Hygiene*, 39 (Apr., 1955), 246-47.
A descriptive account of the individual problems in a secondary-school class for the retarded; stresses the need for diagnostic study and therapeutic treatment of problems before adolescence is reached.
- DALY, FLORA M., and CAIN, LEO F. "Mentally Retarded Students in California Secondary Schools," *Bulletin of the California State Department of Education*, 22 (Oct., 1953), 19-179.
Reports a study to define the characteristics of the pupils and the nature of the program conducted in California secondary schools; detailed and informative.
- DOUGLASS, HARL R. *Education for Life Adjustment*. New York: The Ronald Press Co., 1953, pp. 45-87.
Presents areas and objectives to be studied with consideration of mental and social adjustment for the lower segments of the high-school population.
- Educating the Mentally Handicapped in the Secondary Schools*. (Illinois Secondary School Curriculum Program Bulletin No. 12.) Springfield, Ill.: 1951.
Prepared to define for administrators and teachers the characteristics of mentally retarded youth in the secondary school, their

learning abilities and the nature of an appropriate program for these pupils.

"The Education of Handicapped and Gifted Pupils in the Secondary School." The Bulletin of the National Association of Secondary-School Principals, 39 (Jan., 1955), 25-44.

Presents placement aspects of the mentally retarded in the secondary school, and related curriculum provisions and personnel work. Descriptions of secondary-school programs in several cities are included.

Employment Certificates—Help You Help Youth. Washington, D.C.: Government Printing Office, 1955, pp. 1-20.

Helpful for administrator and teacher; discusses the young worker, his job and the law, good practices in issuance of certificates, cooperation with schools and other community agencies, and certification and federal law.

GEISLER, LEON. "Social, Legal, and Educational Aspects of a Work-Experience Program for Mentally Retarded Students on the Secondary School Level," *American Journal of Mental Deficiency*, 61 (Oct., 1956), 352-61.

A thorough analysis of the laws and regulations that affect school work-programs for the retarded in California.

HOLLINGSHEAD, MERRILL T. "Selective Techniques Used in the Placement of Mentally Retarded Boys and Girls in the Secondary School," *American Journal of Mental Deficiency*, 53 (Apr., 1949), 562-67.

Describes an early development in the selection of educable children above 65 I.Q. for a secondary-school program and states outcomes for individual pupils.

HUNT, DE WITT. *Work Experience Education Programs in American Secondary Schools.* (U.S. Office of Education Bulletin 1957, No. 5.) Washington, D.C.: Government Printing Office, 1957.

A comprehensive report on the types of work experience, essential considerations for initiating programs, and operational procedures. Descriptions of actual programs, and basic practices that can be applied to the retarded.

KELLY, ELIZABETH M. "Administering and Supervising a Program for the Mentally Handicapped in the High School," *American Journal of Mental Deficiency*, 56 (Apr., 1952), 747-51.

Discusses selection of mentally retarded pupils, organization of, curriculum for, and supervision of a secondary-school program. Outlines curriculum planning that begins at the elementary level and culminates in the high school.

MARTENS, ELISE H. "Toward Life Adjustments through Special Education," *School Life*, 23 (Jan., 1951), 52-54.

States the basic premises of secondary-school special education programs for the mentally retarded in seven cities. The goal

direction is better living as the outcome of functional life problems.

SHAINMAN, LEO. "Vocational Training for the Mentally Retarded in the Schools," *American Journal of Mental Deficiency*, 56 (July, 1951), 113-19.

Describes as a part of the program of occupational education in the New York City schools, committee work designed to analyze work skills and provide vocational training for the educable retarded.

YOUNG, MILTON A. "Academic Requirements of Jobs Held by Educable Mentally Retarded in the State of Connecticut," *American Journal of Mental Deficiency*, 62 (Mar., 1958), 792-802.

A brief review of literature on the employability, job placement, and follow-up of the mentally retarded. An analysis of academic skills and vocabulary for job areas are stated as a basis for realistic curriculum leading to occupational adjustment.

Part V

Rehabilitation Services
and Trends

19

Rehabilitation of the Mentally Retarded

Rehabilitation in its widest meaning is defined as the restoration of the handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable. There is recognition that there cannot be full vocational rehabilitation without mental and social adjustment to the disability.

Rehabilitation has taken on particular significance in the field of the mentally retarded because of the recognition of the number who need service and the potentialities of clients ranging from sheltered employees to the semiskilled. Many special education supervisors and teachers have long been concerned that social and occupational goals should be achieved by mentally retarded pupils, and have striven to shape educational programs to this end. Until the early 1940's there was, however, little concern for this goal outside of the school and the home.

A new era for the mentally retarded began with the passage of the Barden-La Follette Act (Public Law 113) in 1943. This act extended to the mentally handicapped and the mentally ill those vocational rehabilitation services, federally sponsored and state-administered, long in operation for the physically handicapped.

Provision of Rehabilitation Services

The provisions of the 1943 act were also greatly extended over those of the early act of 1920 as to financial subsidies and type of services. The age limit for beginning service was lowered from sixteen to fourteen years. The responsibility for carrying out the provisions of the law was vested in the state vocational rehabilitation divisions.

The rehabilitation of an individual covers nine integral factors, all or part of which may be necessary for successful adjustment:

1. Early location of persons in need of rehabilitation to prevent the disintegrating effects of idleness and hopelessness.
2. Medical and psychological diagnosis and prognosis, coupled with a vocational diagnosis, as the bases for determining an appropriate occupational plan for the individual.
3. *Individual counseling and guidance to select a suitable field of work by relating occupational capabilities to job requirements and community occupational opportunities.*
4. Medical, surgical, or psychiatric treatment to remove or reduce the disability, and medical advice on the type of training to be given and on the tolerance of the individual: artificial appliances such as glasses, hearing aids, braces, and so forth, may be supplied.
5. Physical and occupational therapy and psychiatric care as a part of medical treatment where needed.
6. Prevocational or vocational training to enable the individual to do the job well.
7. Financial assistance to provide maintenance and transportation during training.
8. Placement in employment to afford the best use of abilities and skills in accordance with the individual's physical condition, temperament, and intelligence, with due regard to safeguarding against injuries
9. Follow-up on performance in employment to supply adjustments that may be necessary, to provide further counsel, if needed, or to supplement training.¹

¹ Salvatore G. DiMichael, "The State-Federal Program of Vocational Rehabilitation of the Mentally Retarded," *American Journal of Mental Deficiency*, 54 (Oct., 1949), 230-36.

These factors define briefly the concept and thorough nature of study, diagnosis, treatment, and training made available to the handicapped. There was far-reaching significance in the 1943 act in the extension of provision for medical, surgical, psychiatric, and psychological diagnoses, for treatment, counseling, and occupational training and placement for the mentally retarded. A service so thorough in its conception and with proven success in the areas of the physically handicapped augured a bright future for those who upon leaving school or institution found no bridge to satisfactory employment.

Implementation of Services

As in the case of any other newly introduced service, there was no research or precedence in 1943 for implementing the program for those with the deviations of mental retardation or mental illness. For more than twenty years, the physically disabled had held the focus of state-federal rehabilitation personnel. Leaders in the field of the mentally deficient worked for the passage of Public Law 113, which made possible those extended services, knowing that the feasibility and details of its implementation would require a period of time. How slow the states were to take on this added responsibility is revealed in the annual statistics on rehabilitation closures (persons serviced and employed), in the several states over the nation.² In 1948, five years following the passage of the law, the mentally retarded group represented only 9/10 of 1 per cent, or 479 cases of the total 53,131 employed closures. By 1953, ten years after enactment of Public Law 113, out of 61,308 employed closures the mentally retarded still represented only 9/10 of 1 per cent, or 573 cases. And yet the mentally retarded are estimated at 6,000,000 in the national population, a number far in excess of that for any one of the several groupings of the physically handicapped. It is encouraging to note, however, that percentages since 1953 have shown increase.

² From data prepared by the U.S. Office of Vocational Rehabilitation, Washington, D.C., 1958.

There were a number of reasons for this lag in the first decade following the passage of the law. State services were geared for the physically handicapped who had been rehabilitated with proven success. Problems of administration and reorganization were many. There was a lack of administrators and of counselors trained to understand mental deviations. There were not only large numbers in the category of the mentally retarded, but the range in age and mental ability was great. There was need to establish a definition of eligibility for service.

As to numbers, records of Selective Service for the Armed Forces in World War II showed that out of 13,000,000 examined, 4.3 per cent had been rejected for mental deficiency. How many of these were unemployed and could have benefited from referral for rehabilitation? How many younger or older unemployed mentally retarded were there in the community?

The criteria of eligibility to be applied was stated in a general way as follows: "*In order for an individual to be considered eligible, (1) he should be of working age, (2) he must have a substantial disability which results in an employment handicap, and (3) a reasonable chance must be evident that the individual will become employable or be able to secure a more suitable job through the rehabilitation services.*"³

Public school systems which had served this group over the years gave estimates of the numbers that would be eligible. The Special Education Division of the Michigan Department of Public Instruction adopted an estimate of 2 per cent of the general school population as a standard for determining the approximate number of mentally deficient in need of service.

The Bureau for Children with Retarded Mental Development of New York City considered the figure for the employable group referable for service at 80 per cent of mentally retarded in the general school population. Other school systems, such as Rochester, N.Y., for example, which offered a prevocational program designed to ready pupils for employment, estimated that approximately 15 per cent of the mentally retarded on leaving school would need rehabilitation service because of mental and social immaturity accompanying physical handicaps.

³ DiMichael, *loc. cit.*, p. 232.

Research was needed to discover standards for eligibility, methods of diagnosis and prognosis, occupational potentials, and kinds of treatment and training. However, there was financial provision for a job to be done rather than funds for research.

Development of Cooperative Programs

Certain state rehabilitation offices set up a cooperative program with public school systems for getting the work under way. In connection with these projects they planned studies and analyses of the potentialities of the candidates, of counseling and of training techniques, and of on-the-job success.

The Michigan State Department of Education and the Michigan Vocational Rehabilitation Agency operate under a plan of referral at fifteen years of age for approximately 2 per cent of the total school population. Their tentative conclusions are stated as follows:

On-the-job training has been found to be the most suitable training method for the mentally retarded. . . .

The Michigan Agency in working with the mentally retarded is proceeding on the assumption that the transition from school to initial employment represents a critical period in the rehabilitation of the mentally retarded. The rehabilitation program is emphasizing services to this age group more than any other in the mentally retarded population.

The effectiveness of the rehabilitation program seems to be highly dependent on the active cooperation and keen sense of responsibility of the total community for the mentally retarded, including the interested agencies. . . .

From the past experience of the Michigan Office of Vocational Rehabilitation it appears that, above a certain mental level, personal adjustment is a greater determinant than I.Q. rating in predicting success on a job. Adjustment failures more often seem to be the result of poor home background and social and economic disintegration. A defective person who is industrious and has a stable personality can become self-supporting if his intelligence is not extremely low. Socialization is an important factor in the client's employability.

The great majority of mentally retarded clients have been placed in unskilled labor jobs and personal service jobs. . . .

The vocational rehabilitation of the mentally retarded seems to require greater intensification of the counselor's efforts and greater skills

in the following phases of rehabilitation: personal counseling, family relations, psychological evaluation, job analysis, employer education, and follow-up.⁴

Minneapolis, Minnesota, maintains a state branch office operated jointly by the State Division of Vocational Rehabilitation and the Minneapolis Board of Education. The supervisor in charge is employed by the Board of Education as the head of rehabilitation and special education in the Minneapolis schools. Two vocational counselors are assigned to work with physically handicapped and mentally handicapped persons, major attention being given to the ages of sixteen to twenty-one years. A cooperative program for occupational training for a selected number of the mentally retarded has been developed at the Minneapolis Vocational and Technical Institute. Program adjustments for occupational training are made for others in junior and senior high schools. The supervisor and counselors are available for continuous service to the school personnel engaged in the training program. This joint program of training and counseling is suited to individual potentialities in preparation for local employment.

An extensive study of mentally retarded applicants for vocational rehabilitation in New York City gives additional pertinent data. Each applicant was studied for general physical condition, intellectual capacity, language and arithmetical achievement levels, manual-manipulative abilities, emotional stability, and social competency. The range of potentiality and limitation is apparent in the five occupational classifications that were made: (1) semiskilled and commercial trade-helpers, (2) occupational workers, (3) sheltered workshop workers, (4) sheltered helpers in homes.

One important conclusion of the New York study is that there is a need for closer integration between the schools and the Vocational Rehabilitation Agency. The termination of schooling is a crucial period in the life of the student: provision for his work-planning and supervision is a necessity. The school should

⁴ Salvatore G. DiMichael (ed.), *Vocational Rehabilitation of the Mentally Retarded* ("Rehabilitation Service Series," No. 123 [Washington, D.C.: Government Printing Office, 1951]), pp. 164-65.

assume responsibility for sharing comprehensive data and recommendations concerning the student's personal and work assets upon which the rehabilitation agency may base its services. In turn, the agency should advise the school of the demands of suitable jobs so that educational curricula may be revised in accordance with changing conditions and requirements.

The experiences and findings derived from these cooperative programs enabled the Vocational Rehabilitation Services to better understand the occupational problems of the educable retarded. Likewise, the school derived cues from improved educational goals, curriculum, and guidance. Added support for rehabilitation services and research, however, was needed to discover, understand, and meet the problems of the unemployable retarded.

Extension of Rehabilitative Provisions

After World War II many factors were at work producing an awareness of the need for extended rehabilitation services for all types of disabilities. The increased use of more effective drugs and improvement of operative procedures extended the span of life. There were the demands of parent groups for services for severely handicapped children, both physical and mental. Surveys revealed the small numbers cared for in public schools or in institutions.

The sharpening of focus on the understanding of the psychological, social, and economic values of rehabilitation, not only to the individual but to society, steadily increased. Professional persons generally became aware of these values as they became better informed and had opportunity to observe individuals develop new skills and capacity for training and employment. Rehabilitation centers and workshops for therapeutic treatment, and instances of evaluation and occupational training under the auspices of private agencies or supported by public funds, were all too few. Additional public support was needed.

In 1954 Public Law 565 was enacted to increase vocational rehabilitation funds for service to more clients, to create additional rehabilitation centers and workshops, and to provide for

training of more professional staff members and for the development and refinement of rehabilitation techniques.

This law has given impetus to the entire program of vocational rehabilitation in every state, and has stimulated local community interest. It has particular significance for the mentally retarded. The provisions of the law make possible demonstration and research projects for (a) the discovery and diagnosis of occupational potentials for those on different levels of mental retardation, the educable and the severely retarded, (b) the discovery of types of rehabilitative treatment and training suited to different levels of ability and individual psychosocial needs, and (c) the definition of facilities and services for the development of different degrees of economic usefulness for (1) full employment in the job, (2) part-time employment, and (3) employment in a shelter workshop under close supervision.

Local Demonstration Projects. With the aid of federal grants under Public Law 565, two study projects were carried out for local youth in two large city communities. These projects have yielded valuable objective data as a basis for vocational rehabilitation services to the educable retarded.⁵

The Jewish Vocational Service of Chicago experimented with clients having a major handicap of mental retardation (50 to 80 I.Q.), of epilepsy, of emotional disorders, or of physical disability. One requirement for referral was a judgment of "apparently unemployable" by a vocational agency which had been unsuccessful with the client. The individuals attended the workshop for an eight-week period. The work plan centered around both group and individual relationships, related to type and level of work, and varied work pressures. The clients' employability increased as treatment of the psychosocial aspects of work adjustments, such as motivation for work, interpersonal relations, and frustration tolerance brought about a change in attitude and behavior. A number of the mentally retarded clients benefited.

⁵William Gellman and John A. Kubiak, "Vocational Rehabilitation: Administration and Program Development," *Proceedings of the 1957 Spring Conference of the Woods Schools* (Langhorne, Pa.: The Woods Schools for Exceptional Children, 1957), pp. 39-69.

Another two-year project, state sponsored, was carried out at the workshop of the Milwaukee Jewish Vocational Service for mentally retarded, 50 to 75 I.Q., who were unemployable. A rating scale was developed for the evaluation of the most important factors in work adjustment such as social relationships, attitude toward co-workers, attitude toward supervisory personnel, attendance, and interpersonal factors.

Following evaluation a work training program was drawn up for each individual. The goal of each program was to help the individual establish adequate relationships both with co-workers and with supervisors, to develop initiative and responsibility, and to develop sufficient work tolerance so that he could continue on a job for eight hours. With some clients the goal included an increase in production. Placement in employment followed.

An established outgrowth of this project is the Milwaukee Rehabilitation Work Adjustment Center for the Mentally Retarded with the same goals and programs that have proved successful experimentally. Another outcome of this pilot project was the establishment of the Milwaukee Sheltered Workshop for the Retarded. This workshop serves those retarded persons who are unable to adapt to work in industry, but can work under close supervision at a slower rate.

Residential Demonstration Project. Another type of demonstration supported by federal grant and state sponsorship is carried out in a residential rehabilitation center to serve educable retarded youth from the rural areas or smaller communities. The Employment Evaluation and Training Project, a sixteen-week evaluation and training program, is designed to investigate and increase the vocational potential of youth. Trainees are recommended by the local rehabilitation counselor and screened at the center for eligibility for occupational training. It is stated that

on acceptance, trainees are entered as residents in the project in pairs. The first four weeks of their stay is an intensive evaluation of their skills and abilities on tasks of a light industrial nature, business and clerical nature, and service nature, as well as information on test results and an intensive study of their work characteristics and atti-

tudes. Special attention is paid to the personal-social behavior of each trainee in his relations with his supervisors and his peers.⁶

At the end of the four-week period each client is staffed and evaluated on his ability to profit from the next twelve-week part of the program, which is the vocational adjustment training phase. Clients are placed on jobs for two-week periods, offering them experience in six different jobs during the twelve-week period. Upon completion of training the clients are returned to their local community and the local rehabilitation counselor receives information from the training center to aid the client in finding work. In selected cases, a twenty-week work program under supervision in one job may be added.

Only boys are accepted for residential living. Any girls who may enter the program would necessarily have to enter on a commuting basis from the communities close to the workshop area.

These demonstration projects are producing data on the testing and training techniques and the potentials for employability of educable youth.

Sheltered Workshops. Private agencies in a number of communities have conducted sheltered workshops for the more seriously disabled to serve the individual for a period of training for employability. Some of these workshops in the larger communities also have served the disabled who could carry on work under close supervision in the controlled workshop environment but could not compete on the job. Sheltered workshop research projects are under way to discover potentials and methods of training for the more capable in the trainable group who can live in the community. In time, therefore, more adequate solutions for both educable and trainable will be discovered and put into practice.

Coordination of Services

The U.S. Office of Education and U.S. Office of Vocational Rehabilitation are concerned with promoting and strengthening cooperative efforts at state and local levels. The coordination

⁶ *Employment Evaluation and Training Project for the Mentally Retarded* (Carbondale, Ill.: Southern Illinois University, 1959).

of special education programs for the retarded and rehabilitation services affords opportunity for mutual improvement and efficiency of services.

Developing practices are pointing the way to clearer definition of the school's responsibility in the educational program. Schools must face realistically the kind of curriculum they are building. Studies have demonstrated certain assets that are common to readiness for and success in employment of the educable retarded.

1. Optimum health and physical capacities to meet demands of the job
2. Good physical appearance, good grooming, and clear speech
3. Emotional stability and favorable personality traits to withstand the strains and pressures of the work environment
4. Motivation, work habits, and attitudes
5. Respect for authority and rules
6. Communicative ability

Should the educational program culminating with occupational cores or units including school work-experience described in the previous chapters prepare the majority for vocational placement—those pupils particularly in the range of 60 to 75 or 80 I.Q.? If so, the services of the Office of Vocational Rehabilitation will be needed for those retarded pupils who upon leaving school continue to be unemployed because of (a) physical handicaps, (b) social immaturity and/or emotional instability, (c) awkwardness and physical appearance, or (d) marginal employability.

This discussion calls attention to a public agency that can aid the community and the public school to achieve a better understanding of its responsibility for the education of mentally retarded youth. In turn, the rehabilitation agency may develop specialized training, and a counseling and placement service that will supplement what the school offers. The roles of both organizations are, as yet, not clearly defined. Every school administrator should be in touch with his state rehabilitation agency to promote mutual understanding, to encourage working relationships, and to aid in studying ways and means for improved service on the part of both agencies.

Questions and Suggestions for Study

1. Discuss in detail nine factors of rehabilitation named in this chapter.
2. Are you in touch with the nearest district rehabilitation office in your state? Do you have the information on services supplied by it?
3. How is your district rehabilitation office serving the mentally retarded? the physically handicapped? Has it a cooperative school program?
4. How many mentally retarded youths ages fourteen to twenty-one in your school district are in school? out of school? employed? unemployed?
5. Describe two youths that were successfully rehabilitated by your district office. Describe a youth whose disability was too extreme for rehabilitation in employment.
6. At what age does the child profit most from cooperation between the school and the rehabilitation agency? Give reasons for your answer.
7. Discuss the function of high-school programs outlined in Chapter 18 in respect to rehabilitation.

Reading References

BARKER, B. W. "Preparation of Retarded Clients and Employers for On-the-job Training and Placement," *American Journal of Mental Deficiency*, 57 (Apr., 1953), 580-84.

Discusses the vocational rehabilitation counselor's responsibility to the retarded client for effecting satisfactory placement in employment.

DiMICHAEL, SALVATORE G. "Vocational Rehabilitation for the Mentally Retarded," *The Personnel and Guidance Journal*, 31 (Apr., 1953), 428-32.

Presents the variety of job placements for clients and an estimation of amounts earned after rehabilitation.

FERGUSON, ROBERT G. "Evaluating Vocational Aptitudes and Characteristics of Mentally Retarded Young Adults in an Industrial-Agricultural Workshop," *American Journal of Mental Deficiency*, 62 (Mar., 1958), 787-91.

Contains a description of the evaluation program of the sheltered workshop, a project study, in Tampa, Florida.

GURALNICK, DAVID. "Vocational Rehabilitation Services in New York City for the Mentally Retarded," *American Journal of Mental Deficiency*, 61 (Oct., 1956), 368-77.

An analysis of 248 cases, below 50 I.Q. to 76 I.Q., who were referred for rehabilitation services. Data is given on job status, weekly wages, follow-up, and factors limiting success for a number of cases.

HITCHCOCK, ARTHUR A. "Vocational Training and Job Adjustment of the Mentally Deficient," *American Journal of Mental Deficiency*, 59 (July, 1954), 100-6.

The vocational rehabilitation counselor uses the fundamental steps of procedure for the retarded client. He must appreciate, however, the need for constant review and interaction of processes.

Sheltered Workshops for the Mentally Retarded. (Proceedings of Conferences on Sheltered Workshops, Fifth Annual Convention, Boston, Mass.) New York, N.Y.: National Association for Retarded Children, 1955, pp. 1-48.

Articles on topics including employment problems, the responsibility of various agencies, and plans for the organization of sheltered workshops.

Significant Trends

The twentieth century marks a period in American public education in which the goal of equal educational opportunity for all American children is coming to fruition. Special education is a service for the child who deviates physically, mentally, or socially to such a degree that he cannot derive an optimal education from the regular school program. The rapid growth in programs at both state and local levels attests to the recognition of the exceptional child's right to an education in keeping with his capacities, limitations, and interests, looking toward his optimal personal adjustment and the most constructive contribution he can bring to society. Special education provision for the educable mentally retarded, long recognized as an integral part of the public school program, has expanded rapidly since mid-century. Programs for the severely retarded or trainable have been added in many states.

What is the status of special education for the mentally retarded today? What are the trends that have a bearing on its developments? What of its future? Workers in the field of the mentally retarded must constantly be alert to social and scientific developments that have a bearing on their work.

Programs stemming from national level in the Department of Health, Education, and Welfare, and reaching to state and local levels, were mentioned in the first chapter. Private agencies too have been active. The Project in Technical Planning of the

American Association on Mental Deficiency, supported by federal grants under the National Mental Health Act, has spear-headed surveys, research, and conferences. The purposes have been to promote professional interest in the field, to enlist cooperation in medical and social services at state level, to set up standards for training professional personnel, and to define standard terminology and classification common to all professions engaged in research or services.

The National Association for Retarded Children has contributed in countless way to the development of programs. Chief among them are legislation for provision of public school classes for both educable and trainable retarded children, establishment of parent-sponsored classes and parent counseling, occupational training in sheltered workshops, and support of medical and psychological research.

These movements are having their effects on medical, psychological, social, educational, and rehabilitation concepts of mental retardation, on diagnosis, and on treatment.

Ongoing Developments

Certain developments and trends are having their influence on special education programs. Those of particular significance may be summarized briefly as follows:

1. There is growing emphasis on more thorough medical, biological, psychological, and sociological study of the condition of mental deficiency and its causes, resulting in greater attention to differential diagnosis. In Masland, Sarason, and Gladwin, *Mental Subnormality* (see Reading References at the end of the chapter), there is a detailed summary of contemporary knowledge on causes, and needed future research is pointed up.

Medical and psychological research in the past decade has studied endogenous and exogenous etiology. Endogenous classification implies familial or hereditary mental defect in individuals coming from families having histories of mental deficiency. Endogenous classification has come under close scrutiny, since subcultural factors play so large a part in this group. Exogenous classification implies inheritance from intelligent

stock, the mental deficiency being caused by adverse prenatal conditions, birth injury, accident, disease, or severe environmental deprivation.

Studies reveal that the exogenous group makes up the larger percentage of the total group. In the exogenous group are the children who bear the effects of cerebral palsy, birth injury, encephalitis, meningitis, convulsive disorders, glandular dysfunction, a severe head injury, anoxia, and so on. This is the group for whom medical as well as psychological diagnosis must be thorough. Responsibility for their development lies with both the physician and the teacher.

Psychological research is focused also on the study of the *behavior and performance* of the mentally handicapped person. Whereas the earlier emphasis was on research in tests and measurement to determine the intelligence or learning ability of the individual, the center of attention today is behavior and the *whole personality*. Projective methods or techniques have been developed for eliciting from the individual the way he organizes and interprets experience and feels toward situations and people. These projective methods are constructed on the assumption that when the individual is presented with plastic, unstructured materials, he must organize and interpret them and thereby reveal his characteristic personality as a dynamic process. Three techniques employed today are the Rorschach Ink Blot Tests, the Thematic Apperception Test, and play therapy.

Projective techniques enable the psychologist to understand better why and how pupils with like I.Q.'s respond in different ways toward learning of school subjects, toward understanding and using their environment, and toward other persons. Projective techniques aid the psychologist to discover emotional blocking which causes the child to respond like a mentally handicapped person. Both psychologist and psychiatrist are increasingly aware of the impact of emotional stasis on intellectual functioning. This group cannot readily be diagnosed, labeled, and treated as mentally handicapped. These children and youths, though retarded, have feelings and desires like others that cannot be overlooked. Their personalities must be thoroughly studied to discover the whole picture of cause and effect, so that

awareness of individual potentialities. The extension of vocational rehabilitation services to the mentally handicapped and national "Employ the Handicapped" drives have brought the potentialities of the mentally handicapped group as well as those of the physically handicapped to the attention of the employer and the public.

Parent groups have become active at the local level on behalf of mentally retarded children. Affiliated with state organizations that are part of the National Association for Retarded Children, they have created interest and an awareness of responsibility in local public-minded citizens. Parent groups have become a potent influence for guiding public opinion in support of services. Many local communities today are facing the problem and are actively engaged in finding ways to meet the challenge more effectively.

5. The rapid enactment of legislative provisions for educational provision for the trainable places an added responsibility on the school. The goals and nature of the program are not yet fully determined. As indicated in Chapter 2, schools cannot achieve independence or literacy for the trainable child. Therefore, a life plan or program involving more than the school-age years is implied.

6. *Vocational rehabilitation services for the mentally retarded* are being studied. As suggested in the previous chapter, *testing for occupational assets, counseling, and training and placement procedures* are under experimental review.

7. Earlier recognition and study of the child with a serious deviation of any kind are more frequent. The field of maternal, infant, and child welfare has expanded to a marked degree. Hospital clinics and maternal and child-care centers, crippled children's services, and private pediatric services afford opportunities for examining and diagnosing children who deviate markedly from the average in development. Family physicians and parents today are aware as never before of special services for the diagnosis and correction of physical conditions.

The growing movement to provide state aid for special education beginning at the age of three and particularly for the child who is blind, deaf, or palsied is having its effect on early

recognition of the child with both mental and physical deviations. An increasing number of children are being discovered and treated during the early formative years.

The significance of the early years in the development of intellectual functioning is recognized. Kirk's experimental study, *Early Education of the Mentally Retarded* (see Reading References), has furnished certain data on the effects of home environments and nursery school on the young educable child. Other studies are under way.

8. Cooperative research studies have been made in the learning process, and in curriculum and methods for the educable child, to aid in better understanding of intellectual potentiality and of conditions that produce optimal learning and personal adjustment. Fruitful outcomes from these research studies are probably limited because they are of short range rather than being controlled studies over a span of years. They have produced sufficient evidence, however, to show that the educable group, approximately 65 to 75 or 79 I.Q., have assets that approximate the dull-normal child. (See Dunn, Reading References.)

9. There is a growing awareness that successful special education programs cannot be initiated without qualified teachers. The U.S. Office of Education recognized the crucial problems of securing qualified teachers for handicapped children in its study of "Qualifications and Preparation of Teachers of Exceptional Children." Congress passed legislation (H.R. 13840) to make grants to colleges and universities to assist them in training personnel who will engage in teacher training or research in the education of mentally retarded children.

Significance for Education

These trends imply that the public school has need of extending and improving educational programs for the mentally retarded in the following ways:

1. Psychological and medical services for diagnosis and prognosis should be greatly extended, (a) to insure differential diagnosis as to causes, and prognosis for educability or training,

(b) to insure adequate diagnosis as a basis for understanding the child's particular problems and for recommending appropriate treatment—medical, social, and educational.

2. Programs for the trainable child should be introduced, where state legislation assigns such responsibility to the state education system. Continued study and evaluation of these programs is necessary to determine the function of the public school and of other agencies in a lifelong plan for the trainable child. Education or training is only one aspect of the total problem.

3. As specialized materials and methods to serve needs of retarded children with such disorders as brain injury and cerebral palsy are developed, they should be introduced in the school program.

4. Provision for early recognition and special education at an early age should be made. Programs should be developmentally planned from the beginning so that the child can experience success rather than failure in his early school life.

5. Counseling and education of parents should be made a part of all programs. The cooperation of the home is a vital factor in bringing about an effective educational program.

6. Particular attention should be given to the assets of the educable child. There should be understanding and recognition of the individual as a developing personality in order to give him a satisfactory social and group status, and to enable him to develop a worthy and effective selfhood; i.e., a belief and confidence in what he himself is and what he can accomplish. This recognition should also bring about greater integration for the retarded child in the activities of his grade peers.

7. Functional goals leading to social and occupational efficiency at the age when the individual leaves school should be a part of all programs. The coordination of education, vocational rehabilitation services, and employment services should be carried out in order to define the respective role of each agency.

8. Cooperation of the school with health, medical, child guidance, mental health, social welfare, and recreational agencies during preschool, school, and postschool life should be extended. Growth in community responsibility implies that services to supplement education will be provided.

9. Fully qualified teachers, educated to understand the particular problems of the mentally retarded and to provide appropriate curricula and methods are the chief requirement for improving and extending school programs.

10. As school administrators assume greater responsibility for local educational programs for the retarded, they will recognize similar needs for the dull-normal and extend school work or occupational programs to the larger group of slow-learning pupils.

The basic principles and program structure described throughout this text are in keeping with the above trends and recommendations. Further research and experience will lend insight for improved practices.

Reading References

DUNN, LLOYD M., and CAPORIANCO, RUDOLPH J. "Mental Retardation," *Review of Educational Research*, 29 (Dec., 1959), 451-70.

Gives a review of psychological and educational research—in the field of mental retardation—over a period of six years. A comprehensive reference on progress and trends.

KIRK, SAMUEL A. *Early Education of the Mentally Retarded*. Urbana: University of Illinois Press, 1958.

Reports a study of preschool education and its impact on later school achievement.

MICKELSON, PHYLLIS. "Some of the Current Challenges of Case Work with the Mentally Deficient," *American Journal of Mental Deficiency*, 57 (January, 1953), 504-11.

Discusses the role of the social worker with parents and children.

MASLAND, RICHARD L.; SARASON, SEYMOUR B.; and GLADWIN, THOMAS. *Mental Subnormality*. New York: Basic Books, 1958.

A comprehensive review of research in the biological, psychological, and cultural factors with suggestions for future research.

STRAUSS, ALFRED A., and LEHTINEN, LAURA E. *Psychopathology and Education of the Brain-Injured Child*. New York: Grune & Stratton, Inc. Vol. I, *Fundamentals and Treatment*, 1947; Vol. II, *Progress in Theory and Clinic*, 1955.

Presents psychological studies and methodology that is specific for the brain-injured child.

Index

- Abel and Kinder study, 79-80
Administrator, suggestions for, 121-22
Allergies, 152
American Association on Mental Deficiency, 9, 377
Arithmetic
 practical use of, 326-27
 tests, use of, 331
Art, 204-6
Articulation, defects in, 297
Attainments
 communicative (language arts), 182-89
 general, 172, 174-75
 growth in, 171-92
 health, 181-82
 science, 190-91
 social studies, 189-90
 specific, at various age levels, 172-91
Attitudes, good, development of, 156-60
Audio-visual aids, 221-24
 films, 223
 projectors, 222-23
 radio programs, 223
 recordings, 223
 stereoscopes, 222
 television, 223-24

Barden-La Follette Act, 363
Body mechanics, faulty, 151
Books, stimulating interest in, 316-17
Borderline group, 13
Breathing, obstructed, 151

Cardiac impairments, 151
Case studies, illustrative, 136-43, 154-56

Cement, as unit of work, 197-200, 202
Census, annual, of mentally retarded, 127-28
Cheerfulness, developing, 158
Child care, as unit of work, 200-202
Child Guidance Movement, 5
Child study reports, 129, 134-35
 illustrative case studies, 136-43
Children
 evaluation of, 128-43
 psychological study of, 128-43
 selection of, for mentally retarded educational program, 125-45
 see also Educable retarded children; Mentally retarded children; Severely retarded children; Slow-learning children; Trainable retarded children
Children's Bureau, 6
Classes
 for severely retarded children, general pattern of, 30-32
 special, 103-24
 I. Q. grouping, 119-20
 large city systems, 107-10
 personnel, 118-19
 programs for, 117-20
 provision for, 106-17
 recognition of the retarded, 103-6
 rural communities, 115-17
 secondary schools, 110
 small city systems, 110-15
Classroom conditions, 147-49
Communicative arts
 acquiring the, 292-323
 attainments in, 182-89
 see also Language arts
Community adjustments, implications from studies of, 75-86

- Community life, mentally retarded and, 93, 179
- Cooperation, development of, 157
- Courtesy, development of, 158
- Creativity, 224-25
- Curriculum
plan, need for, 191-92
see also Units of work
- Dependability, development of, 158
- Desks, 148
- Developmental and family history form, 129, 132-34
- Diabetes mellitus, 152
- District of Columbia study, 22-23
- Dull-normal group, 13
- Educable retarded children, 7, 8, 9, 11-13, 39-61
cooperation in the home, 72-73
definition of, 8, 9, 39
participation with others, 72
- Education
potentiality of retarded for, 7-8
principles of; *see* Principles, guiding
U. S. Office of, 6, 372
- Education, of mentally retarded programs
developmental and continuous, need for, 120-21
objectives of, 87-100
organization of special classes, 103-24
planning daily and weekly activities, 239-43
secondary-school, 335-60
selection of children for, 125-45
special classes, 117-20
trends in, 376-83
see also Classes; Schools; Units of work
- Educational principles, 68-73
- Endocrine conditions, abnormal, 151
- English, improving usage of, 295-96
- Environment, school, importance of, 225-26
- Experiences
activity and actuality in, 70-71
firsthand, 215-16, 217-21
of expression, 216, 224-25
providing for, 215-25
secondhand, 216, 221-24
- Expression, experiences of, 216, 224-25
- Family life, mentally retarded and, 93-95, 178, 346
- "Feeble-minded," 7
- Films, 223
- Filmstrip projectors, 222
- Filmstrips, 222
- Follow-up studies
educable retarded, 75-86
severely retarded, 22-25
- Forms
developmental and family history, 129-32
health and physical record, 129
referral for study, 129, 130-31
- Freedom, atmosphere of, 69
- Friendship, developing, 158
- Functional reading, 310
- Generosity, development of, 159
- Group activities, mentally retarded and, 93
- Guidance, for retarded children, 146-68
adjustment between school and home, 160-62
classroom conditions and, 147-49
illustrative case studies, 154-60
records, value of, 163-66
school health services, 149
teacher's responsibilities, 149-54
- Guiding principles, 62-73
educational, 68-73
philosophical, 68-73
psychological, 62-68
- Habits, good, development of, 156-60
- Health and physical record form, 129
- Health, Education and Welfare, Department of, 6, 376
- Health habits, development of, 91-92, 181-82
- Health, of mentally retarded children attainments in, 181-82
classroom conditions and, 147-49
school health services and, 149
teacher's responsibility for, 149-54

- Health services, school, 149
 High school; *see* Secondary school
 Home, adjustment between school and, 160-62
 Home-making; *see* Family life
 Honesty, development of, 158
 Humidity, effect on comfort, 147-48
- Impairments, cardiac, 151
 Incidents, daily and occasional, use in development of children, 203-4
 Independence, need of, 72
 Individual differences, in mentally retarded, 5, 67-69, 97-99
 Industrial arts, 204-6
 Infections, focal, 151
 Interests, development of, 69-70
- Kennedy study, 81
- Language arts
 acquiring, 292-323
 attainments in, 182-89
 need for knowledge of, 293-94
 oral, 294-98
 reading, 302-17
 writing, 298-302
 Lantern slide projector, 222
 Leadership, administrative, 106
 Learning
 factors affecting, 13-14, 64-67
 process, 64-67
 Leisure, mentally retarded and, 95-96, 180
 Lighting
 classroom, 148
 unit of work on, 265-79
- Malnutrition, 151
 Massachusetts Survey, 78-79
 McKeon Study, 80-81
 Measure, units of, 330
 Mental development of retarded children, 43-45, 62
 Mental retardation, 3-15
 attitudes toward, 4-8
 concept of, 4
 Mentally handicapped, defined, 8
 Mentally retarded children
 assets of, recognition of, 4-5
 census of, 127-28
 definition of, 8, 9
 descriptions of, 47-59
 education of; *see* Education
 implications from studies for occupational and social living of, 82-85
 individual differences in, 5, 67-69, 97-99
 mental development of, 43-45, 63
 motor ability of, 62-63
 physical development of, 40-43, 62
 potentiality for education, 7-8
 problems of, indifference to, 5
 recognition of, 103-6, 125-45
 services for, 6-7
 social development of, 45-47, 63-64
 see also Educable retarded children; Severely retarded children
 Motion picture projector, 223
 Motor ability of mentally retarded, 62-63
 Music, unit of work centering on, 252-65
- National Association for Retarded Children, 377
 National Institutes of Health, 6
 Needs
 of mentally retarded children, 157
 realization of, 70
 Nervous conditions, 152
 New York City project, 24
 Number processes, 327-32
 sequence in, 328-29
 Number skills
 acquiring, 324-34
 arithmetic, practical usage of, 326-27
 experiences in, utilizing, 324-27
 learning aids, 329-30
 principles and practices useful in teaching, 331-32
 units of measure, 330
 see also Arithmetic
 Number symbols, introduction of, 327-28
- Objectives, educational program, 87-100

- Occupations, mentally retarded and, 96-97, 178-79, 347
- Office of Vocational Rehabilitation, 6, 372
- Oral language, 294-98
English usage, improving, 295-96
speaking vocabulary, increasing, 295
speech, improving, 296-98
- Oral reading, 309
- Parent counseling, severely retarded children and, 29-30
- Perseverance, development of, 158
- Phelps study, 81-82
- Philosophical principles, 68-73
- Physical development of mentally retarded, 40-43, 62
- Pictures, use of, 221
- Poultry, as unit of work, 195-97, 229
- Principles, guiding, 62-73
educational, 68-73
philosophical, 68-73
psychological, 62-68
- Problem-solving, provision for, 327
- Projectors
filmstrip, 222
lantern slide, 222-23
kinds of, 222-23
motion picture, 223
opaque, 222
overhead, 222
- Psychological principles, 62-68
- Psychologist, school, role of the, 126
- Radio programs, 223
- Reading, 183-88, 302-17
ability, tests for determining, 312-16
beginning, abilities requisite for, 305
capacity of children, 303-4
comprehension and, 308-9
functional, 310
oral, 309
position for, 148-49
process, teacher's understanding of, 304-5
programs, sequence in, 305-16
readiness of children, 302-3
series, use of a, 311-12
silent, 309
- Recorders, speech, 223
- Recordings
sound, 223
still films with, 223
- Records, teacher's, value of, 163-66
- Referral for study form, 129, 130-31
- Rehabilitation, of mentally retarded, 363-83
defined, 363
programs, cooperative, development of, 367-69
provisions, extension of, 369-72
local demonstration projects, 370-71
residential demonstration project, 371-72
sheltered workshops, 372
- services
coordination of, 372-73
implementation of, 365-67
provision of, 364-65
- Retardation; *see* Mental retardation
- Rural communities, special classes in, 115-17
- St. Paul study, 23
- Schools
adjustment between home and, 160-62
environment, importance of, 225-26
health services, 149
response to challenge of severely retarded children, 20-22
responsibility of, 14-15
see also Secondary school
- Science, attainments in, 190-91
- Seating, 148
- Secondary school
class organization and schedule, 348-52
curriculum, goals of the, 343-44
entrance, readiness for, 341-43
program, 335-60
description of a, 352-57
features of, 338-40
units, contents of, 344-48
- Self-confidence, developing, 158
- Sensory defects, 151

Units of work (*Continued*)

- providing for practical use of tool subjects, 212
- record of, 231-35
- secondary school, 344-48
- selection of, 209, 213-14
- suitability to child's level of development, 210
- unrelated activities providing for, 230-31
- value of, 201-2
- working groups, organizing, 243-44

Unselfishness, development of, 159

Vocabulary

- building, 307-8
- speaking, increasing the, 295

Vocations, mentally retarded and, 96-97, 178-79, 347

Well-being, physical; *see* Health

Work units; *see* Units of work

Workshops, sheltered, 372

Writing ability, improving, 298-302